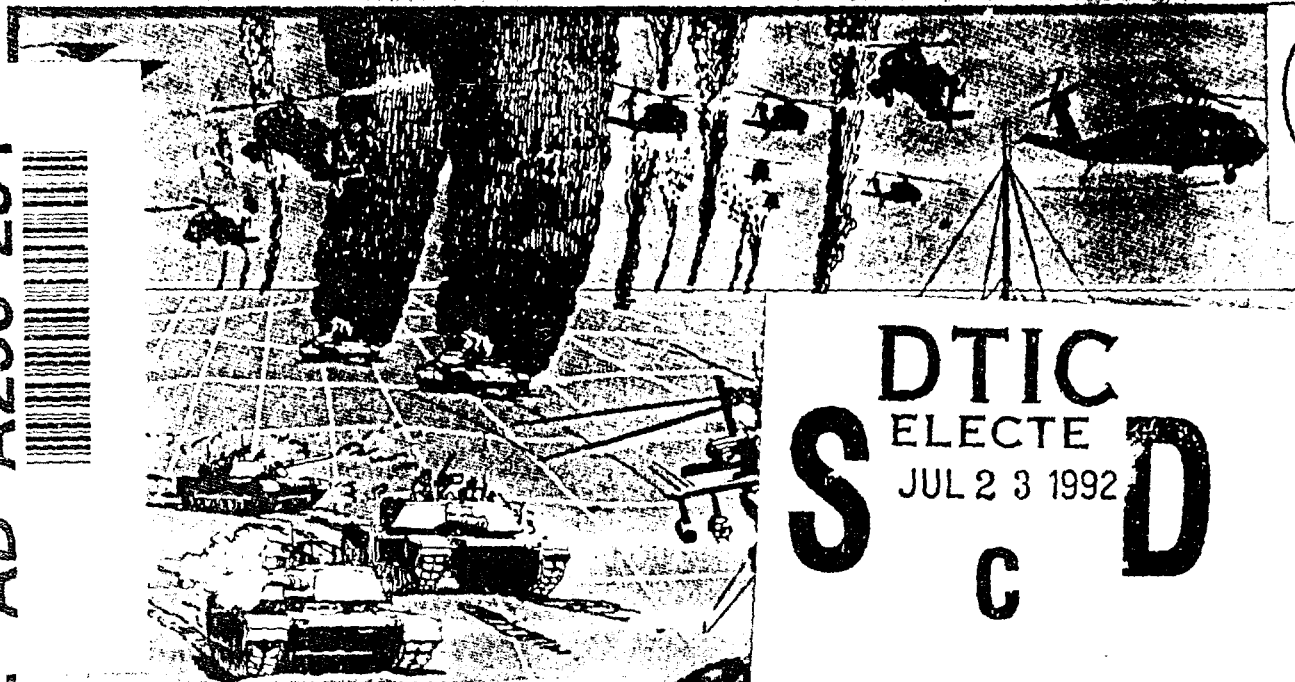


# Military Review

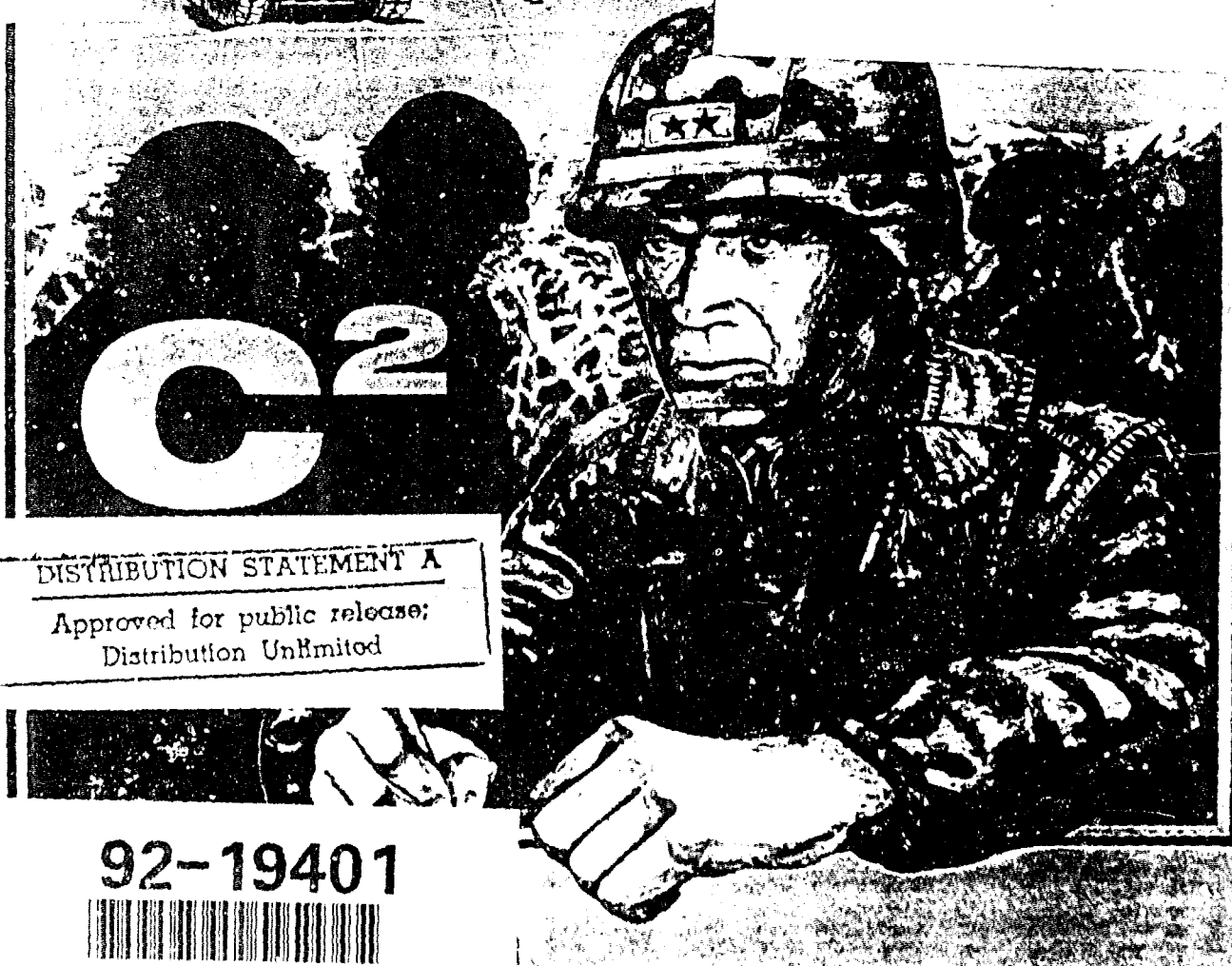
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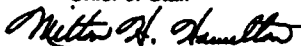
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## "No More Task Force *Smiths*"

*Military Review* is pleased to highlight in this issue two articles by Army Chief of Staff General Gordon R. Sullivan. The first, "A Trained and Ready Army: The Way Ahead," defines *training* as the "glue that holds the Army together." His second article, a fitting resurrection of *Military Review's* popular "From My Bookshelf" department, offers a glimpse at General Sullivan's personal and professional reading habits. In both, and in numerous articles and speeches, General Sullivan has returned to the "No More Task Force *Smiths*" theme again and again.

In the February 1988 issue of *Military Review*, Major Michael Cannon outlined the *Smith* travesty in "Task Force *Smith*: A Study in (Un)Preparedness and (Ir)Responsibility." The following exchange typified the tragic, almost comic, circumstances of this first battle of the Korean War. Cannon writes:

"Chambers, an assistant platoon sergeant, called back on the sound-powered telephone for some 60mm mortar fire on the enemy tanks. The answer was:

*They won't reach that far.*

Well, how about the 81mm mortars?

*They didn't come over with us.*

How about the 4.2s?

*The 4.2s can't fire.*

How about the artillery?

*No communications.*

What about the Air Force?

*They don't know where we are.*

Call the Navy.

*They can't reach this far.*

Well then, send me a camera. I want to take a picture of this."

On the positive side, Cannon points to conspicuous examples of courage and aggressiveness such as the platoon leader who bounced 22 rounds of ineffectual bazooka fire off a North Korean T-34 tank without causing even minor damage. As T. R. Fehrenbach writes, Task Force *Smith* was "an arrogant display of strength to bluff the enemy," ill-conceived, ill-equipped, ill-disciplined and ill-trained. The Army can learn much from the Task Force *Smith* debacle and will, no doubt, continue to trumpet the story of Task Force *Smith* to all who can be made to listen, both within the Army and without.

While tough, realistic training is critical to assuring we suffer "No More Task Force *Smiths*," maintaining the rigor and progressiveness of military education programs is also important to achieving this goal. It has been said that education is "what is left over after you have forgotten everything you have learned." Where training provides the how, education provides the why, a systematic development of intellect and character. Military education programs, represented by the Command and General Staff College, the Army War College (established 90 years ago this month), the National Defense University and, of course, such professional journals as *Military Review*, provide the substance that gives resilience and permanence to the "glue that holds the Army together." Just as it demonstrated ineptitude on the battlefield, Task Force *Smith* highlighted a broad range of bankrupt military systems, including strategy, doctrine, modernization, manning and training. The Army has been there before; our education systems have periodically suffered from neglect, dogmatism and irrelevance. Is "No More Task Force *Smiths*" an achievable goal? It is and it must be. The Army and the country cannot afford otherwise.

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**A TRAINED  
and READY**

**ARMY:**

**The Way  
Ahead**

**General Gordon R. Sullivan**

*Army Chief of Staff General Gordon R. Sullivan sounds a clarion call to Army leaders. His message is simple and clear: training is the peacetime Army's first priority. He emphasizes that training is the link between peacetime readiness and performance in combat and challenges Army leaders to make training the "glue" that holds the Army together in this period of change.*

**T**ODAY's United States Army is the best in the world. Victories in the Cold War, Panama and the Gulf War—achieved in conjunction with our sister services and our allies—are proof positive that America's Army stands trained and ready. The world today is undergoing fundamental transformation, however, and the Army cannot rest on its laurels.

As we adapt to the post-Cold War world, the key will be to maintain our momentum while accommodating the changes in our environment. Before we can begin to adapt functionally to change, we must establish a vision for the future Army—where are we headed? The future Army must be a Total Force, trained and ready to fight, serving our nation at home and abroad; we must be a strategic force capable of decisive victory. There are four major challenges the Army confronts as we move toward this vision:

- Maintain the warfighting edge we demonstrated in Panama and the desert.
- Reshape the Total Army to adapt to the new national military strategy and budget realities.
- Use resources efficiently.
- Strengthen the Total Army by improving the integration of the various components—Active, Army Reserve, National Guard and civilian.

The purpose of this article is to focus on the first challenge—maintaining the edge—and in particular on the central role of training in meeting this challenge. Twice in the past 24 months we have demonstrated the ability to fight at a level that our opponents could not handle. We

have a qualitative warfighting advantage that has led to quick, decisive victories. These victories did not occur by accident. This edge is the result of 20 years of planning, dedication and just

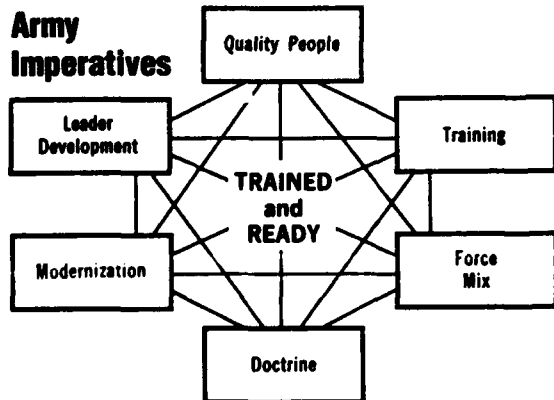
**The future Army must be a  
Total Force, trained and ready to fight,  
serving our nation at home and abroad;  
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of decisive victory.**

plain hard work that have placed in balance six fundamental imperatives (see figure). The edge is the combined effect of quality people, trained to razor sharpness, outfitted with modern equipment, led by tough, competent leaders, structured into an appropriate mix of forces by type and employed according to up-to-date doctrine. The key is that these factors must be in balance, each complementing the others so the net effect is synergistic.

For several reasons, I look to training as key to maintaining the edge. First, training is the imperative that bonds the other five together into a coherent whole. Only during training are soldiers, equipment, leaders, a blend of forces and doctrine all combined just as they are in combat. Training is the glue that holds the Army together.

Second, training is the imperative on which the units of our Army focus day to day. It is through training that the noncommissioned officers and company and field grade officers of today's Army contribute most directly to maintaining our warfighting edge. It is the link between what we do in peace and what we do in war. Simply stated, training is the top priority for our units in peacetime.

The status of training in America's Army today is superb and the envy of most other armies worldwide. Our allies in Operation *Desert Storm*, for example, expressed amazement that within one week of the cease-fire, US Army units had assessed their performance in combat, developed training plans and were executing realistic, tough training in the deserts of Kuwait and Iraq. This is proof positive that we have institutionalized the importance of training. The advances



**Within one week of the cease-fire, US Army units had assessed their performance in combat, developed training plans and were executing realistic, tough training in the deserts of Kuwait and Iraq.**

in training over the past 20 years—in training doctrine, programs, facilities and devices—make possible the execution of AirLand Battle doctrine anywhere in the world. Our challenge is to continue to focus on training in peacetime and to refine our training procedures and techniques to ensure that we maintain our warfighting edge.

### **The Principles of Training**

The heart of the Army's training system is the set of nine training principles introduced in US Army Field Manual (FM) 25-100, *Training the Force*. I expect leaders at all levels to understand these principles and apply them routinely to their training programs. The principles provide an appropriate outline for the points I want to emphasize in this article.

**Train as Combined Arms and Services Teams.** Recent combat operations prove the importance of this point. The ability to synchronize all forms of combat power lies at the heart of our effectiveness on the battlefield. It is difficult to imagine an operation in the future that will not require teamwork among the services. Joint operations are the rule, not the exception, and we must train this way. The battlefield tells the story: the Iraqi army did not understand combined arms and joint operations—we did.

Two points deserve additional emphasis here. First, we must forge closer working relationships between Active and Reserve (Army Reserve and National Guard) Component units that share missions. We must build on the lessons of *Desert Shield* and *Desert Storm*—the most successful mobilization ever—to improve mutual understanding, trust and respect among the components of the Total Army. Training together is the best way to do this. For example, we now know what it takes to complete postmobilization

training of a roundout brigade. The next move is to tighten the links between the brigades and their parent divisions in peacetime to make the transition to war more efficient. Active Component units must develop a sense of responsibility for the readiness of assigned Reserve units.

Second, we must make the most of every opportunity to train our allies around the world. The lessons of recent operations indicate the challenges of combined and coalition operations. As the proportion of our Army deployed overseas decreases and the emphasis shifts to contingency operations, it becomes more important than ever that we remain able to fight alongside our allies. This will be possible only if we train together now.

**Train as You Fight.** No other single term captures the essence of our training doctrine better than "battle focus." This concept is the starting point of many of the training advances made over the past 20 years, including the development of mission-essential task lists (METLs) and the founding of the combat training centers (CTCs). Our training must retain its battle focus if we are to maintain the edge.

As we shift away from clearly defined general defense plans, however, it becomes more difficult to focus on specific battle scenarios. This new reality places a premium on versatility. Our training must include deployment operations, responding to unanticipated contingencies and fighting in a variety of climates. We must consider the entire operational continuum—from "peacetime engagement" such as disaster relief to high-intensity war.

A good starting point is the lessons from recent operations, but we must not assume that the next war will look like *Just Cause* or *Desert Storm*. Some lessons transcend any particular operation. For example, we know we must place increased training emphasis on the problem of fratricide and we will do so at the CTCs, at leader development courses and during gunnery training.

**Use Appropriate Doctrine.** American Army warfighting doctrine is the best in the world. It has guided us to success in the ultimate test—battle. In cases as disparate as *Just Cause*

A column of Republican Guard BMP-1s destroyed near the Euphrates River, late February 1991.



**Twice in the past 24 months we have demonstrated the ability to fight at a level that our opponents could not handle. We have a qualitative warfighting advantage that has led to quick, decisive victories. These victories did not occur by accident. This edge is the result of 20 years of planning, dedication and just plain hard work.**

and *Desert Storm*, AirLand Battle doctrine and the supporting publications such as "how to fight" manuals, mission training plans and soldier manuals have served us well. Just last year units from across the entire Army—from both Active and Reserve components, from the Continental United States as well as Europe—formed with little forewarning into two unique contingency corps in the desert 7,000 miles from the United States. The ability of these units to defeat—in concert with our sister services and our coalition partners—the fourth largest army in the world in 100 hours is testimony to the strength of our doctrine, the quality of our training and the adaptability of our leaders. No other Army in the world is capable of such a feat.

The commander of US Army Training and Doctrine Command (TRADOC) is leading the review of FM 100-5, *Operations*, to ensure it remains abreast of changes in our world. By late next year, this debate will produce a new edition of this capstone manual. While doctrine is con-

stantly under review and revision, the underlying principles on which doctrine is founded are constant. Revised warfighting doctrine will eventually influence our unit organizations, equipment, training and leader development, but for the near term we must remain focused on existing doctrine.

#### **Use Performance-oriented Training.**

One of the most important elements of the training "revolution" over the past 20 years is the emphasis on performance-oriented, criterion-based, hands-on training using prescribed tasks, conditions and standards. In short, the American Army learns best by doing.

As budgets decline, we must find innovative, efficient ways to continue performance-oriented training. Simulators such as the close combat tactical trainer and the unit conduct of fire trainer (UCOFT), computer-driven battle simulations for staff training, and training devices such as subcaliber systems for weapons will continue to play important roles in our training plans.

**As we shift away from clearly defined general defense plans . . . it becomes more difficult to focus on specific battle scenarios. This new reality places a premium on versatility.**

**Our training must include deployment operations, responding to unanticipated contingencies.**

**Some lessons transcend any particular operation. For example, we know we must place increased training emphasis on the problem of fratricide and we will do so at the CTCs, at leader development courses and during gunnery training.**

We must continue to emphasize good training habits in order to control the factors that can constrain our ability to conduct "live" training. Safety considerations, limited time, smaller budgets and adverse effects on the environment must be part of training plans from the outset.

The payoff for conducting any training are the lessons the soldiers learn and the resultant influence on future performance. The most critical step in this process is the after-action review (AAR). I am convinced the Army's institutionalization of the AAR as an essential part of training is one of the most important training innovations ever. The AAR is essentially our way of being honest about our performance—it is an important ingredient of our professional integrity. In the future, as we strive to get the most from each performance-oriented training event, rigorous AARs conducted by competent leaders and linked to defined standards take on even greater importance.

**Train to Challenge.** Young American men and women enlist in the Army to be challenged. Challenging training builds individual confidence and forges cohesive units. An important function of the CTCs is to present a future challenge on which a unit's training plan can focus. The CTCs provide both a standard of performance against which soldiers, leaders and units

can measure themselves and the incentive to raise and maintain their proficiency. We will ensure that the CTCs remain a tough, realistic training challenge by continuing to fund them as a priority.

As the Army reshapes itself for the future, we will confront more turbulence among personnel and units than has been the norm over the past decade. Soldiers are moving from Europe, some are leaving the service, units are inactivating, posts are closing. Since we cannot afford to take a time-out from readiness during this period of change, now more than ever we must focus our training on the challenges that the CTCs provide. This emphasis will remain.

**Train to Sustain Proficiency.** Soldiers and units tend to peak for major events and then suffer a decline in performance effectiveness. Our training programs are designed to maintain effectiveness at a high level and avoid the valleys of lower proficiency. The mission of our CTCs is to bring units up to a common high standard.

As we become increasingly focused on responding to crises worldwide (mostly of the unanticipated and short-notice variety) from the Continental United States, sustaining our fighting skills at high levels at all times takes on increased importance. The Combined Arms Training Strategy (CATS), being developed and implemented by TRADOC, will contribute to sustaining combat readiness. CATS will provide for each type unit in the Total Army a progressive sequence of training events that the commander can use to build and sustain unit proficiency. CATS identifies standards, "gates" (training events preliminary to more advanced training) and training resources that support each training event. Commanders can use CATS to develop a training strategy tailored to their specific needs based on their METL assessment. CATS has the potential to contribute greatly to our requirement to sustain unit proficiency.

It is interesting to note that the Army's challenge to maintain the edge in the aftermath of the great victories of the past 24 months is a larger-scale parallel of this train-to-sustain

A battery commander and platoon leaders discuss their fire mission before a 1st Airy Division pre-emptive Iraqi defenses, ern Kuwait, mid-1991.



**Leaders at all levels must commit themselves to developing subordinate leaders—the future of our Army depends on it. After 32 years in this profession, I am convinced that the single most important contribution we make is in developing our subordinates. Our enduring legacy to the Army and the nation is the training of tomorrow's leaders.**

principle. This time the Total Army must avoid the historic downturn in effectiveness as we reshape ourselves for the future.

**Train Using Multi-echelon Techniques.**

As we face the need to get the most out of each training opportunity, this principle is the key to efficient training. Each commander must optimize the use of his constrained training resources—especially time, dollars and facilities—by training at several command levels at the same time. Training simulations are especially useful here; for example, a battalion staff can train using a computer-driven battle simulation while subordinate platoons and companies conduct gunnery or maneuver training.

Multi-echelon training requires detailed preparation—it is not easy to do several things well simultaneously. A unit that trains this

way, however, gets the most from its training resources and synchronizes the entire unit on a single priority—training.

**Train to Maintain.** Training and maintenance are inseparable. We must ensure that we are trained in peacetime to maintain the equipment on which we will depend in war. Maintenance must be done by the book; the standards for maintenance training—the standards of the -10 and -20 manuals—are the standards we will take into combat.

Further, we must strive to be good stewards of the resources the American public invests in the Army. For most soldiers in units, this translates to taking care of property, especially mission equipment. Resources committed to ineffective maintenance programs are resources unavailable for other training.



A Desert Storm soldier shortly before G-day.

**We must forge closer working relationships between Active and Reserve Component units that share missions. We must build on the lessons of Desert Shield and Desert Storm—the most successful mobilization ever—to improve mutual understanding, trust and respect among the components of the Total Army.**

**Units from across the entire Army—from both Active and Reserve components, from the Continental United States as well as Europe—formed with little forewarning into two unique contingency corps in the desert 7,000 miles from the United States. . . . No other Army in the world is capable of such a feat.**

**Make Commanders the Primary Trainers.** Leaders at all levels are in charge of training. This begins at the top where US law gives the Department of the Army the mission to "organize, train and equip" the Army. My message here is simple: I expect training to be the unit commander's first priority in peacetime. Training today is the link to tomorrow's battle. And, the reason the Army exists is to fight America's battles. We must remember that we will all be judged by a simple standard: when America calls, are we ready to protect and defend the Constitution and the Republic?

Our training doctrine calls for centralized planning and decentralized execution of training. These two elements are worth considering here. With the commander's responsibility for

training comes the requirement to customize training to the particular needs of their units. This is the concept behind a commander developing and training to his unit's METL. Centralized planning means that unit commanders, beginning at company level, plan training tailored to their units.

Decentralized execution means giving subordinate leaders the resources to conduct training according to the overall plan. Implicit is the requirement for commanders to ensure the proficiency of subordinate leaders to conduct effective training. Leaders at all levels must commit themselves to developing subordinate leaders—the future of our Army depends on it. After 32 years in this profession, I am convinced that the single most important contribution we

make is in developing our subordinates. Our enduring legacy to the Army and the nation is the training of tomorrow's leaders.

## Maintaining the Edge

A historical example illustrates my points regarding the importance of the Army maintaining its edge by focusing on training as the top peacetime priority. When World War II ended in 1945, the American Army was the most capable in the world. We had combined with our allies and sister services to defeat aggression on a scale larger than ever before in history. Five years later, by June of 1950, the Army was a shadow of its former strength. Many factors combined to produce this outcome—the six imperatives were out of balance. But the point here is that the Army had lost its warfighting edge and a major contributing factor was that battle-focused training was no longer the top priority in our units.

The result is well documented in the accounts of the 24th Infantry Division's Task Force Smith, the first American combat unit deployed to Korea after the invasion from the North. The soldiers committed to combat in this case were not trained and ready to fight. They deployed to Korea from comfortable occupation duty in Japan, expecting to return soon. They were told that the North Koreans, upon learning the US Army had been committed, would withdraw quickly. Many of these soldiers did not survive first contact with the determined North Koreans.

I am committed to avoiding a repeat of this tragic story. If you remember one thing from this article, remember: "No More Task Force Smiths!"

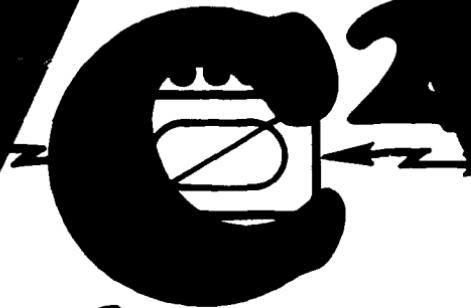
In sharp contrast to this 1950 experience, consider the performance of our Total Army one year ago. Army units—Active, Army Reserve

**The AAR . . . is one of the most important training innovations ever. The AAR is essentially our way of being honest about our performance—it is an important ingredient of our professional integrity. . . . The CTCs provide both a standard of performance against which soldiers, leaders and units can measure themselves and the incentive to raise and maintain their proficiency. We will ensure that the CTCs remain a tough, realistic training challenge by continuing to fund them as a priority.**

and National Guard—from stations all around the world responded to another case of naked aggression. We were trained and ready when the nation called and the result was decisive victory. The roots of this victory can be found in the tough, challenging training of the past decade. Years of hard, often unglamorous training—in such places as Fort Irwin, California, and Grafenwoehr, Germany, at range complexes, maneuver areas, local training areas and motor parks throughout the Army—had paid off. Equally important was the solid foundation laid at the branch schools, at Carlisle Barracks and Fort Leavenworth.

As we reshape the Army for the future, we must remain trained and ready. Our challenge is to maintain the warfighting edge we have now, so we are prepared for the nation's next call. The way to meet this challenge, the way ahead, is clear; the six imperatives must remain in balance. Training—the glue that holds the Army together—must remain the top priority for our units in peacetime. **MR**

*General Gordon R. Sullivan is chief of staff of the US Army. He received a B.A. from Norwich University and an M.A. from the University of New Hampshire. He has served in a variety of command and staff positions in joint and allied assignments in the United States, Europe, Vietnam and Korea, including deputy chief of staff for operations and plans and vice chief of staff of the Army, Washington, DC; with the NATO staff as deputy chief of staff for support, Central Army Group; deputy commandant of the US Army Command and General Staff College, Fort Leavenworth, Kansas; and commanding general, 1st Infantry Division, Fort Riley, Kansas.*



**in a  
Heavy  
Brigade  
Movement to Contact**

Colonel Randolph W. House, US Army, and  
Captain Gregory L. Johnson, US Army

*In December 1990, on the eve of Desert Storm, Military Review received the following article from the commander of a heavy brigade deployed and training in Saudi Arabia for the combat operations that appeared imminent. We delayed publishing the article, to see if the "brigade wedge" formation would actually prove its worth in combat. This article describes how the brigade wedge was developed and trained in the desert before Desert Storm and the authors' postscript tells of its effective use in the long-distance movements to contact and attacks that typified the brigade's combat actions in Desert Storm.*



**T**he 2d Brigade, 1st Cavalry Division deployed to Saudi Arabia on Operation *Desert Shield* and closed on its desert tactical assembly area in early October, 1990. The brigade's first priority was to ensure that 100 percent of its soldiers and equipment arrived safely in desert assembly/life support areas and that units could function normally from them. After two weeks in country, the focus shifted completely to war-fighting. Tough, realistic training to maintain our combat readiness was the goal. The brigade developed contingency plans from which full-up orders processes, terrain walks and table briefs, a command post exercise (CPX) and a command field exercise (CFX) were conducted. The brigade CFX provided a means to practice command and control of the brigade in a *wedge* formation moving quickly over great distances.

As a combined arms maneuver battalion brigade, 2d Brigade is permanently task organized with one balanced task force (two tank companies and two mechanized infantry companies) and two tank-heavy task forces (three tank companies and one mechanized infantry company). The brigade's main command post (CP) and tactical command posts (TACs) are outfitted with the Standard Integrated Command Post System (SICPS), Single-Channel Ground and Airborne Radio System (SINCGARS), maneuver control system (MCS) and mobile subscriber equipment (MSE). These CPs are configured in accordance with standard CP guidelines published by Fort Leavenworth.

As in other heavy brigades in the US Army, 2d Brigade commanders and staff have a wide range of combat training center (CTC) maneuver experience from the National Training Center (NTC), Fort Irwin, California, the Combat Maneuver Training Center (CMTTC), Hohenfels, Germany, several REFORGER exercises, and large-scale exercises at Fort Hood, Texas. However, in this CFX, the brigade battle task force (TF) was required to quickly travel across rugged desert terrain with no road network. A distance exceeding the widest boundaries at the NTC was covered by a full brigade formation in one morning. Under these conditions, systems

were stressed and lessons learned in a way not previously experienced.

Our present doctrine and force structure was developed primarily for a European scenario. Changes in basic doctrine and force structure

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***A distance exceeding the widest boundaries at the NTC was covered by a full brigade formation in one morning. Under these conditions, systems were stressed and lessons learned in a way not previously experienced.***

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will undoubtedly occur as a result of *Desert Shield* and *Desert Storm* experiences, but the brigade had to make some adjustments in the desert as it prepared for *Desert Storm*. This article will describe how the brigade developed the concept and trained for employment in a brigade wedge formation for movement to contact in the expanse of desert terrain.

Our present doctrine allows for flexibility in tactics, techniques and procedures. Full advantage of this flexibility had to be utilized to meet the challenges presented by the vast stretches of desert terrain. For the movement to contact CFX, the brigade battle TF task organized as outlined in figure 1.

One of the main training objectives of the CFX was to test the concept of the brigade wedge. The wedge consists of three maneuver battalion TFs, one artillery battalion, an engineer company and an air defense artillery battery. Brigade planners had templated this wedge formation down to company and battery level and found it to be 9 kilometers wide by 7 kilometers deep (discounting the three TF scout platoons, which move 4 to 7 kilometers forward). We tested this wedge formation during the CFX by taking Global Positioning System (GPS) readings during the battle and later plotting them on a 1:50,000 map and comparing it to our "doctrinal" template (see fig. 2).

We determined that the wedge is an excellent means of maintaining control at all levels while

maneuvering a brigade battle TF over long distances in desert terrain. It allows the commander to keep the force postured for rapid application

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***The wedge consists of three maneuver battalion TFs, one artillery battalion, an engineer company and an air defense artillery battery. Brigade planners had templated this wedge formation down to company and battery level and found it to be 9 kilometers wide by 7 kilometers deep.***

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of combat power at the critical point on the battlefield. The brigade zone was 17 kilometers wide on the CFX and was divided into three equal battalion TF zones. The brigade wedge is only 9 kilometers wide with all elements keying on the lead TF. Maneuver units found they did not need wider TF boundaries except to assign forward screen boundaries for the scouts.

This formation was found to be excellent for a force-oriented objective. The brigade commander can order the lead TF to alter its direc-

tion according to the situation, and the rest of the brigade battle TF can easily follow its lead without detailed explanation. It also provides the brigade commander with the option of executing a small number of brigade "plays." The flank TFs can quickly and easily swing left or right, or come to the support of the lead TF.

The brigade commander can mass his forces at the critical point and time with a minimum of confusion. The formation also provides a flexible, on-order company-size brigade reserve from either the left or right wing TF.

Even though the M1/M2/M3 (Abrams main battle tank and Bradley infantry and scout fighting vehicles) fleet can move across the rugged desert floor at high rates of speed, the brigade could only move at a sustained speed of 15 kilometers per hour (kph). Command post tracked vehicles (M577s) proved to be the weak link. The brigade's other tracked vehicles (M113 armored personnel carriers, M901 improved TOW vehicles, M109 155mm self-propelled howitzers, field artillery ammunition support vehicles, fire support team vehicles, combat engineer vehicles [CEVs] and armored vehicle launched bridges [AVLBs]) were all able to move

## **BRIGADE CONTROL**

### **Improved Tow Vehicle (ITV) Company from the Balanced TF**

- Ground Surveillance Radar (GSR) Platoon
- Combat Observation Lasing Team (COLT) from Headquarters, Headquarters Battery (HHB), Direct Support (DS) Field Artillery (FA) Battalion

### **FA Battalion (155mm SP) (DS)**

- Avenger Platoon from HHB, Air Defense Artillery (ADA) Battalion

### **ADA Battery**

- 2 Stinger Teams
- 2 Forward Area Alerting Radars (FAARs)

### **Engineer Company**

### **Chemical Reconnaissance Platoon (Decontamination) (DS)**

### **Military Police (MP) Platoon (DS)**

- Two MSE Signal Sections, (Small Extension NODE) (DS)

### **Forward Support Battalion (FSB) (DS)**

- 2 Stinger Teams

## **BALANCED TASK FORCE (TF) (-)**

### **2 Tank Companies**

### **2 Mechanized Infantry Companies**

- Vulcan Platoon (+)
- 4 Stinger Teams
- Chemical Reconnaissance Section (FOX)

## **TANK-HEAVY TF**

### **3 Tank Companies**

### **1 Mechanized Infantry Company**

- Vulcan Platoon (+)
- 3 Stinger Teams

## **TANK-HEAVY TF**

- Vulcan Platoon (+)
- 4 Stinger Teams

## **Other Participants in Brigade CFX**

**Attack Helicopter Battalion to support Joint Air Attack Team (JAAT)**

**Electronic Warfare Liaison Officer (EW LNO) and communications jammers**

Figure 1.

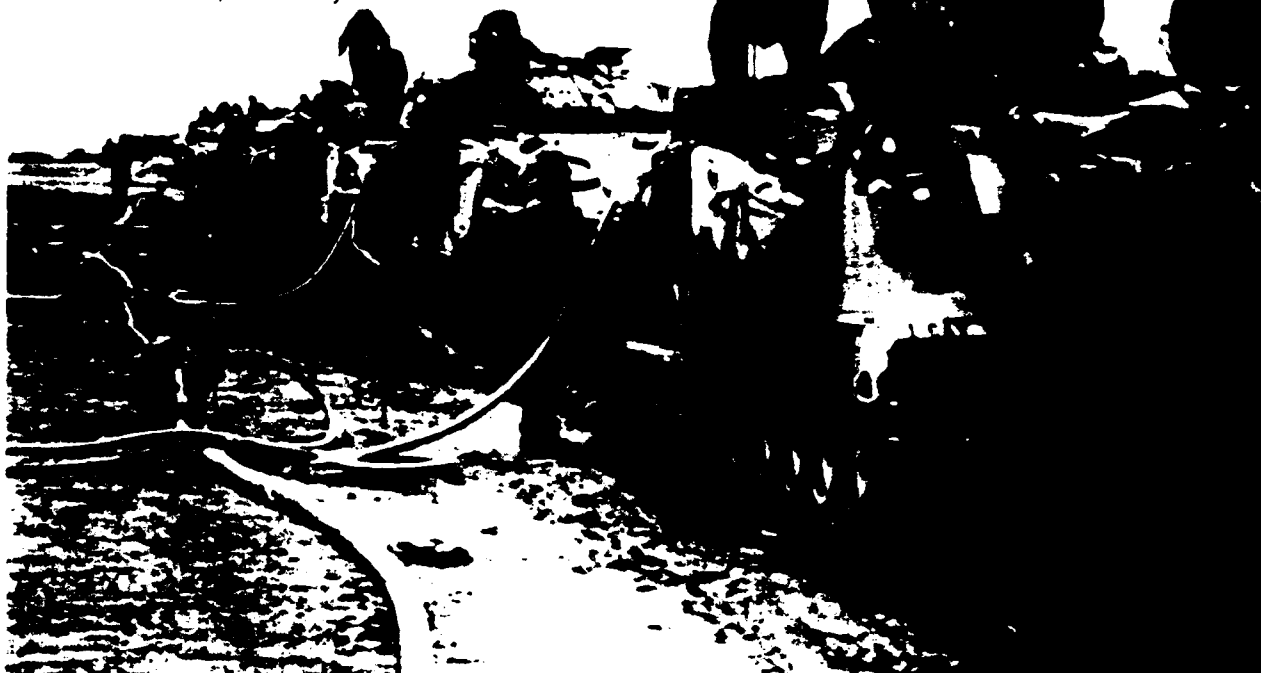


One of the tenets of the brigade wedge formation is the artillery remaining tightly tucked behind the lead TF during the movement to contact. When the brigade commander so orders, it can quickly stop and mass its fires; it always remains within range of the fight. The concept is to keep the artillery moving and only use its fires for the big fight. Were the direct support (DS) artillery to stop and fire at lesser targets during the movement to contact, it would fall behind and not be available at the critical time. The artillery firing batteries had no problem keeping up with the brigade wedge, but had to be moved forward of the lead TF

The brigade wedge facilitates maximum command and control from brigade to platoon level. TF commanders had developed three or four TF-level "plays" that were practiced in the weeks prior to the CFX. When executed from the brigade wedge formation, these maneuver plays were relatively easy to control. Spatial relationships between elements of the entire brigade battle TF are easily understood all the way down to individual track commanders. Reaction time is decreased and battle drill or execution of TF plays is facilitated at all levels. It becomes second nature to react as rehearsed to expected threats, and is much easier to react correctly to unexpected enemy activity.

The brigade commander's workable options are increased significantly, without his having to worry about whether the artillery can support a flank swing maneuver, or that the trail TF is too far to the rear to get into the battle. Time and distance factors are known at all levels and each

"First Team" armor refueling on the move near the breach into Iraq, late afternoon, 26 February 1991.



***It is doubtful if HEMTTs organic to maneuver TFs can make two round trips a day from the BSA or FAST at these attack distances. . . . The BSA must be able to move forward on short notice. The lack of secure nets compounds command and control problems in the brigade rear areas. Routine maintenance or administrative/logistics traffic can compromise an entire brigade's operation.***

and all elements can keep up.

Using the antitank company (improved TOW vehicle-equipped) as a brigade flank screen worked well. On order, they moved immediately to the flank and entered the brigade command net. They were to sustain the screen with the brigade wedge traveling at 15 kph. The brigade commander was able to relay instructions through the flank TF to maintain communications with the screen force when they were in communications dead space.

Keeping the engineer company intact and under brigade control also proved to be a good idea. The engineer company moved well and kept up easily. It moves directly behind the lead TF and in front of the artillery, where it can be brought forward immediately for breaching operations or quickly displaced left or right as the situation dictates.

The brigade wedge facilitates good communications within the formation. SINCGARS radios on single channel have been especially reli-

able. Battalion TF commanders were extremely responsive and never lost communications with the brigade commander.

The movement of node centers and remote radio access units (RAUs) forward to cover the movement to contact zone is an important and extremely difficult operation. Commanders and staff rely more heavily on MSE communications. It is a critical asset, especially during planning phases. Like MSE, MCS enhances command and control during stationary planning phases or in operations where CPs are set for extended periods. But a long-distance rapid movement must still be controlled primarily by FM radio.

The most important lesson learned during the CFX was the difficulty of the brigade main CP and brigade TAC in keeping up with the battle as it progresses over long distances. New command and control schemes are being devised at all levels in order for command posts to accomplish their required function of providing critical intelligence information and combat multiplier



"First Team" armor in Iraq, 1991.

***This formation was found to be excellent for a force-oriented objective. The brigade commander can order the lead TF to alter its direction according to the situation, and the rest of the brigade battle TF can easily follow its lead without detailed explanation. It also provides the brigade commander with the option of executing a small number of brigade "plays."***

synchronizaton.

During previous NTC rotations and field exercises, the brigade CPs performed extremely well and had no trouble staying in the battle. Battle hand off between CPs was smooth and jump times (time needed for relocation of a CP) were fast. Communications (SINCGARS, MSE, MCS and retransmission operations) generally worked well at the NTC with one of the brigade CPs always in control of the battle. Therefore, prior to the CFX, it was thought that we just needed to fine-tune a few things concerning CP operations to be as well trained as we could ever hope to be. With this in mind, the brigade planned and executed the November CPX in the Saudi desert.

One of our main training objectives on the November desert CPX had been to critically analyze CP load plans and decide what actually would be carried from the life-support areas into battle. Streamlining was the goal, and one we thought we had already achieved. However, we

discovered that our CPs were still traveling too heavily loaded. As important as certain items of equipment may seem in stationary planning situations, they can severely limit movement speed and operations on the move.

The TAC operations (S3) M577 must be configured to facilitate operations on the move as part of the brigade wedge. This is difficult due to the large map boards required for brigade-level desert offensive operations and the amount of food, water, personal equipment, camouflage nets and other supplies that must be carried on the same vehicle. Inside the M577, a map board covers the entire right side from ceiling to floor. The left side of the track is filled with four SINCGARS radios and the MCS computer. There is no storage space inside the track, so load plans have been revised, leaving out such items as tables, chairs, briefing boards, external map boards and any other "luxury" items that were formerly set up in accordance with the Standard Integrated Command Post System.

Two battle captains (one each from the brigade S3 and S2 sections) sit on a coffin seat inside the track and monitor four nets—brigade and division command nets and brigade and division operations and intelligence (O & I) nets. They are in position to update the map board

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***The most important lesson learned during the CFX was the difficulty of the brigade main CP and brigade TAC in keeping up with the battle as it progresses over long distances. New command and control schemes are being devised at all levels in order for command posts to accomplish their required function of providing critical intelligence information and combat multiplier synchronizaton.***

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and can coordinate with each other via the internal intercom through their CVCs (combat vehicle crewman helmets). Being effective at this while moving over rough terrain at 15 kph requires a well-trained crew. If the operations M577 is disabled, the two battle captains can immediately jump to the equally equipped S2 section's M577, which follows as part of the TAC.

The only other vehicles with the TAC are the two high mobility multipurpose wheeled vehicles (HMMWVs) that belong to the brigade commander and the brigade fire support coordinator (FSCOORD). The brigade commander, FSCOORD and Air Force liaison officer (ALO) are forward in the command group, traveling in two M113A3s. This TAC configuration allows the TAC to operate on the move and keep up with the wedge. It assists the brigade commander in fighting the battle and feeds him information from the brigade and division O & I nets.

It would be ideal to have the brigade main CP stationary while the TAC is moving within the brigade wedge. It had always been brigade SOP for one of the CPs to be set and in control of the battle while the other displaces forward. This is a sensible procedure and should be practiced

when distances allow. The brigade main CP, with its five M577s, extensive communications capabilities and large staff is a tremendous asset in fighting the current battle and planning for the next one. It is limited, however, by the fact that it must be stationary and located within communications range of the brigade command group, TAC, maneuver TFs and artillery. However, in a scenario where the brigade travels 60 kilometers in 4 hours on a movement to contact, bounding the main CP and TAC, with one always set, will not work. They cannot keep up.

It appears that the best solution is for the main CP to cross the line of departure (LD) behind the brigade wedge and move at the same time as the TAC. The brigade main CP continues to move behind the brigade wedge until contact appears likely. It would then go to ground (set up) at a distance of 9 to 15 kilometers from the likely point of contact (or when expected contact occurs). With one FM retransmission station dropped off at the appropriate location by the TAC, the main CP could stretch its internal control forward to a range of approximately 33 kilometers. The main CP must also execute a retransmission scheme as it moves forward, dropping retransmission elements at locations that best facilitate communications back to the division main CP. Once the brigade main CP is set, MCS, MSE and AM radio assets can be more fully integrated. The brigade TAC would continue to move forward to around 3 to 5 kilometers from enemy contact and control the direct fire battle. The command group moves to the critical point on the battlefield and the brigade commander commands from there. If contact does not develop, movement of the two CPs continues.

At the division level, where CPs are larger, the same kind of command and control problems exist in long movements to contact. For instance, the division main CP's expandable vans will be difficult to move across this type of terrain. The division TAC is as big as the brigade main CP and will have the same kind of problems. The division forward command group has to be as far forward as possible, but is still tied to the combat multiplier assets controlled through



M-109 self-propelled howitzers moving through Iraq

***One of the tenets of the brigade wedge formation is the artillery remaining tightly tucked behind the lead TF during the movement to contact. When the brigade commander so orders, they can quickly stop and mass their fires; they always remain within range of the fight.***

the TAC or main CPs. This is a formidable problem that still requires workable solutions.

The brigade rear CP moves forward with the FSB (forward support battalion) main body. Doctrinally, one of the missions of the brigade rear CP is to assume control of the battle if both the main CP and TAC lose control. This is perhaps an unrealistic expectation in this situation. The rear CP is too far behind to assume effective control of the current battle. That mission could be better accomplished by a designated TF commander and his TOC.

The FSB used the forward area support team (FAST) concept to support forward as soon as the enemy situation permitted. This enables critical support assets to deploy forward rapidly without being tied to a large brigade support area (BSA) move. This shortening of supply lines is critical on long-distance operations. The FAST established ambulance exchange points (AXPs), ammunition transfer points, unit maintenance collection points and Class III (POL [petroleum, oil and lubricants]) resupply points as far forward as permitted by the enemy situation.

The establishment of the forward link with the brigade, while maintaining the rearward link with DISCOM (division support command), is a difficult but critical mission. The FSB moves slowly and has an extremely difficult time linking up after a long attack, due to the preponder-

ance of non-HMMWV/non-HEMTT (heavy expanded mobility tactical truck) vehicles. The majority of the FSB consists of conventional trucks that are "road bound" and unable to traverse desert terrain. They are a hindrance in a movement to contact and can jeopardize the operation. Routes must be meticulously planned to facilitate responsive support.

Experienced leaders must accompany support truck movements. Although the requirement is real, it is doubtful if HEMTTs organic to maneuver TFs can make two round trips a day from the BSA or FAST at these attack distances. Similar to the CP problem, the BSA must not become entrenched at its last location. The BSA must be able to move forward on short notice. The lack of secure nets compounds command and control problems in the brigade rear areas. Routine maintenance or administrative/logistics traffic can compromise an entire brigade's operation.

The FSB will probably move the medical company forward to the LD (line of departure) after the brigade wedge has crossed. This alleviates part of what is a serious medical evacuation problem during attacks covering large distances. Pushing AXPs as far forward as possible from the medical company to points behind the brigade wedge shortens the distance from battalion TF aid stations to the AXP. As with logistical lines, if medical evacuation lines are stretched too thin,

attack momentum can be halted. Medical evacuation helicopters in this environment will most likely go no further than the AXPs. Thus, the system that takes a wounded soldier from a front-line location to the battalion aid station, AXP, medical company and beyond is critical to not

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***Two battle captains (one each from the brigade S3 and S2 sections) sit on a coffin seat inside the track and monitor four nets. . . . They are in position to update the map board and can coordinate with each other via the internal intercom through their CV helmets. Being effective at this while moving over rough terrain at 15 kph requires a well-trained crew.***

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only soldier survival, but ultimately to command and control and the momentum of the attack.

The CFX movement to contact zone had no roads, rough terrain and several areas of loose sand. M1A1 Abrams tanks get less fuel mileage in this environment than technical manuals indicate. M1A1s can go about 200 kilometers on a 500 gallon tank of fuel, M2s about 300 kilometers on a 175 gallon tank of fuel, and M113A3s about 300 kilometers on a 96 gallon tank of fuel. It is critical that all vehicles cross the LD topped-off with full fuel tanks. FSB and internal refuel on the move operations have become the norm.

The brigade has learned a tremendous number of lessons about maneuver warfare during its time in the desert. We drill it, teach it, talk it, and ponder its application in this environment on a daily basis. We are rethinking some of the ways we do business in the heavy forces, and are in the process of reworking battle staff and tactical SOPs. This is not a complete relearning of all valuable NTC lessons, but a thought process that involves the intelligent application of tactics, techniques and procedures to a new and demanding theater of operations.

## **Postscript**

This article was originally completed on 20 December 1990, shortly after the close of the brigade CFX, and submitted to *Military Review* that week. From that time until the end of the war, the brigade continued to refine the concept of the brigade wedge. The use of this technique turned out to be the most important command and control asset and combat multiplier of the war for 2d Brigade. It facilitated rapid movement over great distances, instant and easily executed responses to fragmentary orders issued on the move, and the precise placement of combat power at the critical time and place. The brigade made extensive use of the wedge, moving hundreds of kilometers in a variety of combat operations. As a postscript of the prewar submission, the following brief description of how the brigade wedge was actually used by 2d Brigade during *Desert Storm* is offered.

The brigade wedge was used for the first time by the entire brigade battle TF in January when the brigade moved north to occupy border defensive positions. The brigade TF, in the wedge formation, moved 65 kilometers in 4 hours in what turned out to be the final practice of this formation before its use in combat. It worked extremely well in this move, just as it had in the December CFX.

With the aid of GPS navigational devices, the wedge was able to change directions several times after only one radio transmission from the brigade commander to the lead TF commander. Everyone on the command net acknowledged the change; those not on the command net simply continued to guide on the lead TF. There was no problem with individual or groups of vehicles separating from the formation. Every vehicle crewman knew the formation diagram and understood the spatial relationship of his platoon, company and TF.

The only change made to the brigade wedge as a result of this first movement of the entire brigade was shifting the engineer company to the rear of the formation behind the artillery battalion. The old M-60 chassis engineer vehicles (CEV and AVLB) could keep up, but the com-

pany tended to stretch out so much behind the lead TF that the artillery battalion could not range out to the forward scouts. This change puts the brigade TAC immediately behind the lead TF. The field artillery battalion follows 100 meters behind the brigade TAC, putting it in excellent position to provide fire support for the entire brigade battle TF. The engineer company remains close enough to respond quickly to any of the three battalion TFs.

The brigade wedge was used in attacks up the Wadi AL Batin as part of the theater deception plan, and on the long flanking movement west and exploitation deep into Iraq. The attack formation wedge was able to maintain its intended nine by seven kilometer dimension, expanding and contracting as necessary, while moving hundreds of kilometers at 20 kph. Throughout these operations, everyone was extremely confident that this formation was the SOP solution to the command and control challenges of the requirement to move brigade and division combat formations extremely long distances on little or no notice. It simplified operations to the point where reactions to unexpected situations and response to fragmentary orders from the brigade commander were automatic. By providing a starting base, the wedge became the key to the TF and company/team battle drills that were used.

During the attack and exploitation against the Republican Guards in Iraq, objectives often shifted by as much as 40 to 50 kilometers. These changes were often received while the brigade was on the move toward a previously defined objective. Because of the flexibility of the wedge formation and the brigade's training and confidence in using it, these shifts in direction were deftly accomplished. One radio transmission from the brigade commander and the entire brigade battle TF executed changes on the move.

The possibility of fratricide was greatly dimin-

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***Doctrinally, one of the missions of the brigade rear CP is to assume control of the battle if both the main CP and TAC lose control. This is perhaps an unrealistic expectation in this situation. The rear CP is too far behind to assume effective control of the current battle. That mission could be better accomplished by a designated TF commander and his TOC.***

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ished by moving and fighting from the wedge. When the brigade arrived at one of its later objectives, the division had run up directly behind (within 1 kilometer) another division that was engaged in a fight with the Medinah Division of the Republican Guard Forces Command. Spot reports of activity to the brigade's front were pouring into CPs at all levels. Disciplined, well-trained soldiers and units were immediately informed and control was maintained by a completely intact C<sup>2</sup> system, after a 300 kilometer, extremely rapid attack. The tight control in the brigade wedge formation was a key ingredient in preventing fratricide.

The wedge also provided a readily formed defensive formation when movement stopped. Navigation was enhanced considerably. Breaking maneuver elements out of the wedge to execute a series of well rehearsed plays in an attack or in reaction to enemy fire was a key component in the use of this formation. After executing these maneuvers from the wedge, reassembling and continuing movement in the wedge was accomplished almost effortlessly. In hindsight, no better formation could have been used in accomplishing the myriad of combat missions over the distances and terrain encountered in Desert Storm. **MR**

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# German Unification and the



## Bundeswehr

Joseph S. Gordon

*In addition to the political, social and economic challenges of a unified Germany, Bonn also had to undertake the reorganization, restructuring and downsizing of its armed forces. The author describes the reorganization and integration of the personnel of the two forces. He also focuses on how the equipment surplus will be disposed of as Germany builds its military down to its mandated 1994 end strength.*

**G**ERMANY'S rapid rush to unification presented a major challenge to its armed forces, the *Bundeswehr*. No one foresaw the sudden demise of the Soviet Bloc, the ensuing collapse of East Germany, or the creation of a unified German state less than a year after the opening of the Wall. Almost overnight, Germany was confronted with an enormous task of political, social, economic and military integration of the former German Democratic Republic (GDR). The *Bundeswehr* has focused much of its efforts toward the problems of taking over the GDR's National Peoples Army (NVA [*National Volksarmee*]).<sup>1</sup> In the process of quickly formulating plans to organize a military presence in eastern Germany, Bonn has addressed the reorganization and reduction of the total German military.

While merging the two German forces will not be easy, many of the difficult questions were quickly resolved in negotiations. In July 1990, Chancellor Helmut Kohl of West Germany and President Mikhail Gorbachev of the Soviet Union agreed on the security aspects of German unity: Germany could remain a member of NATO, Soviet troops would leave Germany by the end of 1994, and most important for the military planner, the German armed forces will be reduced to a total strength of 370,000.<sup>2</sup> The treaty signed in September 1990 by the two German states and the four occupation powers further defined the future German military. It would not possess chemical, biological or nuclear weapons; until the completion of the Soviets' withdrawal, Germany may organize territorial defense units on the former GDR territory, but they may not be part of NATO. After the Soviets depart, German troops stationed in the East may be assigned to NATO, but neither foreign troops nor nuclear weapons will be stationed or deployed in the ter-

territory of the former GDR.<sup>3</sup> Finally, with the treaty on Conventional Forces in Europe (CFE) signed in November 1990, the 22 nations of NATO and the Warsaw Pact affirmed Germany's military manpower of 370,000 and placed ceilings on key items of equipment as part of the general reduction from the Atlantic to the Ural Mountains.<sup>4</sup>

At the same time German unification was the subject of negotiation, NATO leaders met in London in July 1990 to revise the alliance's structure and strategy in the light of the diminished Warsaw Pact threat. The declaration from the NATO summit gave German force planners three principles on which to base their reorganization.

- The alliance will have smaller, restructured active forces units at its disposal. These forces will be highly mobile, adaptable and able to react in a crisis with flexibility. The alliance will be supported to an increasing extent by multinational corps made of national units.

- The alliance will decrease the readiness of its active units and will lower training requirements and the number of exercises.

- The alliance will rely to a greater extent on the capability of reactivating more extensive armed forces when they are needed.<sup>5</sup>

On German unification day, 3 October 1990, the total strength of the combined Eastern and Western forces was approximately 590,000, of which 100,000 had belonged to the NVA. Thus, the new *Bundeswehr* will have to eliminate approximately 220,00 by the end of 1994 in order to meet the treaty-mandated strength of 370,000. Some reduction had already begun by the end of 1990, brought about by the shortening of the conscription term of service from 18 to 12 months. And in the former NVA, because all generals and senior officers over age 50 were dismissed and a number of younger officers resigned, the strength of the forces in the East declined to about 88,000.<sup>6</sup>

In order to reduce its manpower and equipment by 1995 to comply with the CFE treaty, Bonn had to decide what to do with the personnel and equipment of the NVA. Rather than com-

pletely dissolving the East German military (according to the model of Foreign Minister Hans-Dietrich Genscher who fired all former GDR

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diplomats), Defense Minister Gerhard Stoltenberg opted to keep some of the people. Bonn feared that total exclusion of East Germans from the military would alienate the population and contribute to the unemployment problem. Former NVA members would help Germany immediately exert sovereignty and avoid creating a security vacuum or no man's land in the East. Moreover, they would also help provide security for the vast holdings of weapons, ammunition and facilities throughout the territory of the former GDR until one could determine their disposition.<sup>7</sup> When Germany celebrated its unity on 3 October 1990, the *Bundeswehr* established a provisional territorial command in the East and announced preliminary plans for the future of equipment and facilities.

## **Reorganization**

On 3 October 1990, the NVA ceased to exist; the minister of defense of united Germany took over the units and facilities of the former GDR. The approximate 100,000 uniformed (remaining from its earlier Warsaw Pact strength of 173,000) and 47,000 civilian members of the NVA became part of the *Bundeswehr*. In its place Bonn created *Bundeswehrkommando Ost* (Eastern Command) led by Lieutenant General Jorg Schönbohm. The Eastern Command was a transitional tri-service organization composed

of an Army Eastern Command located in Potsdam, the 5th Air Force Division in Eggersdorf and the Naval Sector Command in Rostock (see fig. 1). The Eastern Command was to remain

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until July 1991 when control reverted to the individual services. Schönbohm was selected to become the chief of staff of the army (army inspector) beginning 1 October 1991.<sup>8</sup>

The total strength of the forces stationed in eastern Germany, after a period of transition that could last until the end of 1994, is to be 50,000, of which half are to be conscripts, approximately 5,000, officers, and 15,000 NCOs. The Defense Ministry envisions that 45,000 of the 50,000 troops stationed in the East will come from the former NVA. Because the *Bundeswehr* can employ only a fraction of the 23,000 NVA officers reported to be still serving at the end of 1990, a rigorous two-year selection process (discussed below) began in early 1991.<sup>9</sup>

The organization of the Army Eastern Command will serve as the model for the entire *Bun-*

*deswehr* under the plan *Army Structure 5*. This plan contains two related innovations that return Germany to the system developed by Prussia and continued until World War II. The first involves the fusion of the field and territorial armies, which had been separated during the West German period (1955–90). Second, in order to meet the reduction figure under CFE for the army of 260,000, the *Bundeswehr* will rely extensively on the principle of "cadre and rapid-growth" units that will count on reservists for approximately 40 percent of their strength.<sup>10</sup>

Thus, the Army Eastern Command (first under the leadership of Major General Herbert Göttelmann and after April 1991 commanded by Schönbohm's deputy, Major General Werner von Scheven) becomes the equivalent of a *Bundeswehr* corps and is organized both as a field and territorial force (see fig. 2).<sup>11</sup> Subordinate to the Army Eastern Command are two territorial district commands each equivalent to a *Bundeswehr* division: WBK VII in Leipzig, commanded by Brigadier General Eckehard Richter and WBK VIII in Neubrandenburg, commanded by Brigadier General Ruprecht Haasler. The six divisions of the former NVA (located in Erfurt, Potsdam, Dresden, Eggesin, Schwerin and Halle) have been converted to brigades, three of which are subordinated to each of the new territorial commands. Each of the brigades consists of two armored and two mechanized infantry battalions along with supporting artillery, engineers and logistics units. For home defense purposes, the former GDR remains divided into 15 defense district commands (VBKs) and 45 county defense commands (VKKs) subordinate to the territorial commands.<sup>12</sup>

The equipping of the territorial forces of eastern Germany reflects the *Bundeswehr's* preliminary decision not to use most of the NVA's materiel. One third of the brigades (one per territorial command) were to receive the Leopard 2 main battle tank, while the rest will use the older Leopard 1A5. The armored reconnaissance battalions will also receive the Leopard 2. The mechanized infantry battalions will use the Soviet infantry fighting vehicles BMP-1 and SPW-70 until the German Marder is available.

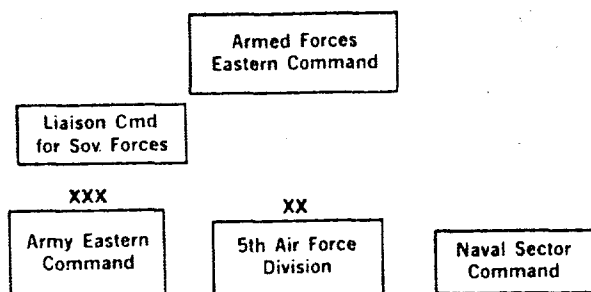


Figure 1. The German Armed Forces Eastern Command and the principal operations staffs

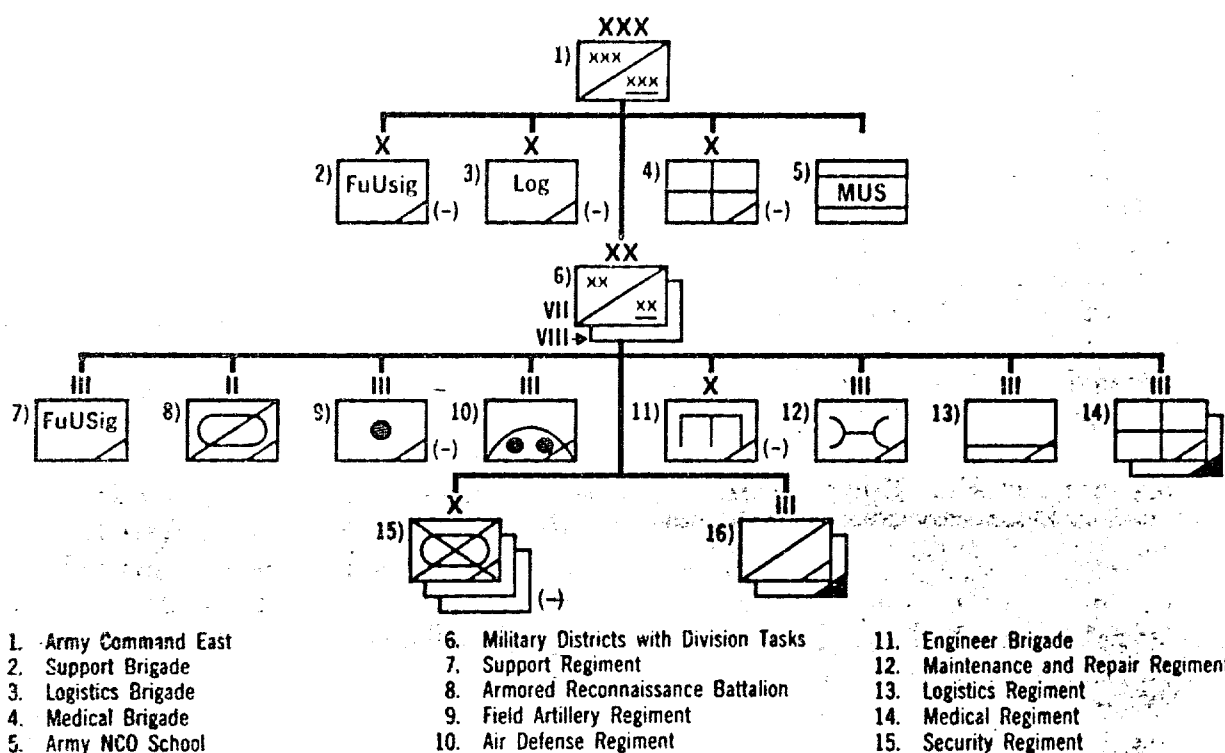


Figure 2. Transitional Structure, Army East

The artillery battalions will continue with the Soviet 122mm D-30 howitzer during a transition period, primarily to save money by shooting up the more than 550,000 rounds of ammunition inherited from the NVA's extensive stocks. Afterward, the artillery will adopt the NATO-standard M109G self-propelled howitzer.<sup>13</sup>

The Army Command East will become one of three corps commands in the future *Bundeswehr*

organization. Bonn plans to establish the two other commands in western Germany: Army Command South to be located in either Ulm or Mannheim and Army Command North in either Münster or Monchengladbach (see fig. 3). This required Bonn to eliminate one of the three corps of the "old *Bundeswehr*," the 1st Corps in Münster, the 2d Corps in Ulm or the 3d Corps in Koblenz. The 3d Corps was chosen. The

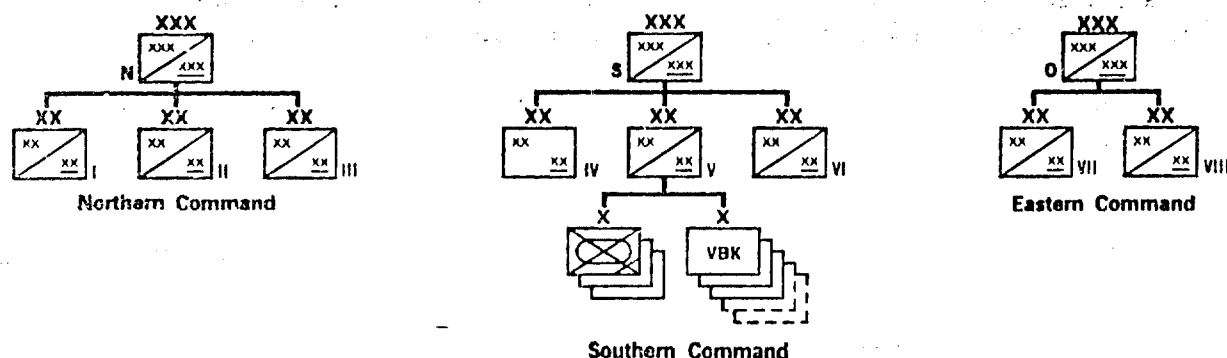


Figure 3. The new army basic command organizational structure, showing the fusion of field and territorial armies.

corps staffs will merge with the territorial commands according to the new principles of organization.<sup>14</sup> Each of the corps commands in west-

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ern Germany will control three divisions, while the Eastern Command will have only two. The total strength of the army is projected to be 255,000 by 1995.

Below the corps level, Bonn envisioned substantial structural changes for the western units along the lines outlined for the army in the Eastern Command. The 12 divisions of the old *Bundeswehr* will be reduced to six (giving the "new *Bundeswehr*" a total of eight divisions counting the two in the East) and the number of brigades will shrink from 48 to 28 (to be manned in varying states of readiness).<sup>15</sup> Army Chief of Staff Lieutenant General Henning von Ondarza indicated that this restructuring would involve converting 72 combat battalions into the new cadre and rapid-growth organizational form while some 76 battalions would be disbanded and become equipment-holding units.<sup>16</sup>

The transformation of the German air force and navy, much smaller in scale than the army, presents a less difficult challenge.

The air force quickly formulated its *Luftwaffe Structure 4* upon German unification to implement reductions, reorganization and deactivation of units. Manpower will decline from the 1990 strength of approximately 98,000 to 84,000 by 1995. Although the *Luftwaffe* needs only to reduce its aircraft by 14 percent to meet the limits of the CFE treaty, the German government may decide to reduce unilaterally the au-

thorized number of 900 planes to about 500 while converting a "considerable number" of its land-based air defense assets to cadre units. (The West German air force had 620 planes and the NVA about 400.)<sup>17</sup>

While unification gave the *Luftwaffe* additional responsibilities in eastern Germany—air-space sovereignty and surveillance, fighter control, air control and air transport with emphasis on "air policing"—it will retain few of the former NVA's assets.<sup>18</sup> Approximately 70 units and facilities will continue in operation under the new 5th Air Force Division, employing about 4,500 personnel, down from the nearly 23,000 remaining in the NVA in October 1990. After the transitional period, the final structure calls for 11,500 personnel serving in eastern Germany. The *Luftwaffe* will keep the radar control command in Furstenwalde with its four detachments, two air control "sectors," one air defense missile command as well as support, communications and training facilities. Of the flying units, the *Luftwaffe* will deploy two fighter squadrons and a transport squadron. They will fly, at least for a while, some of the former NVA's aircraft such as the 24 MiG-29 fighters based in Preschen, transport planes like the TU-154 for shuttle flights between Bonn and Berlin, and the Mi-8 helicopter for search and rescue missions.<sup>19</sup>

The German navy's contribution to force reduction under its "Navy 2005" plan calls for personnel cuts from 1990's level of 36,000 to 32,000 by 1995. By the year 2005, the navy expects to halve the number of ships in service to about 90. Cuts will come neither in frigates that should remain constant at 15 or 16, nor the 105 navy fighter-bombers, nor the 40 helicopters. The number of submarines will decline from 24 to 12, attack and patrol boats from 40 to 26, minesweepers from 54 to 26, and antisubmarine aircraft from 19 to 12-14. But the greatest cuts will come in the support area, where the number of tenders will be reduced from 28 to 10.<sup>20</sup>

Like the air force, the German navy will take over operations in eastern Germany primarily to assert sovereignty. The NVA never had a large navy; it numbered 8,700 men in October 1990.



East German officers at a Soviet war college.

*The Defense Ministry envisions that 45,000 of the 50,000 troops stationed in the East will come from the former NVA. Because the Bundeswehr can employ only a fraction of the 23,000 NVA officers reported to be still serving at the end of 1990, a rigorous two-year selection process . . . began in early 1991.*

The new Navy Sector Command headquartered in Rostock and with bases in Warnemünde and Peenemünde will contain some 60 units and facilities with about 2,000 personnel. Except for some harbor service units such as tugs and barracks ships, the new navy will dispose of the NVA's ship holdings either by salvage or sale. For 1991 at least, the navy will form a coast guard squadron of 12 vessels: one Koni-class frigate, four Parchim-class corvettes, one Sassnitz-class missile ship, one Tarantul-class missile ship and 5 Kondor-class minesweepers.<sup>21</sup>

### Disposal of Materiel

Besides reorganization, Bonn officials have addressed the daunting task of disposing of vast amounts of equipment including thousands of armored vehicles and hundreds of thousands of tons of ammunition that Germany inherited from the NVA, which after the Soviet Union had been the best equipped force of the Warsaw

Pact. Just guarding the equipment and ammunition is said to cost 1 million marks (\$500,000) per week and guard duty reportedly occupies some 11,000 troops.<sup>22</sup> Bonn distributed some of this materiel to US forces in the Middle East and to Saudi Arabia, Turkey and the Arab coalition partners as part of Germany's contribution to the Gulf War. Some equipment may eventually be given back to the Soviets or sold to former members of the Warsaw Pact or their allies. Poland has reportedly expressed an interest in obtaining T-72 tanks, fighter planes, combat helicopters and rocket launchers at no cost.<sup>23</sup> Such transactions may not be easy, however; they may require a political decision because of Bonn's laws prohibiting certain arms exports. All materiel that cannot be put to use in Germany or sold will have to be scrapped and that should prove to be a major challenge for German industry.<sup>24</sup>

An especially challenging problem concerns the disposition of the mountain of ammunition

left in the hands of the NVA, estimated to be as much as 350,000 tons. Destruction or salvage of the ammunition could cost billions and would require at least 30 years if industry does not increase its capacity. Bonn officials hope that the Soviets will take all of their ammunition with them when they leave Germany by 1995. If they

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***The artillery battalions will continue with the Soviet 122mm D-30 howitzer during a transition period, primarily to save money by shooting up the more than 550,000 rounds of ammunition inherited from the NVA's extensive stocks. Afterward, the artillery will adopt the NATO-standard M109G self-propelled howitzer.***

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do not, that could add as much as another 1 million tons to the disposal scenario. Sorting out military real estate and facilities also presents a big problem, as the NVA (with its estimated 70,000 hectares of property) set aside almost as much land for its use as the old *Bundeswehr* (approximately 78,000 hectares).<sup>25</sup>

The *Bundeswehr* does not expect to retain any more than a fraction of the equipment inherited, as already mentioned. Much of it is obsolete. Cogent reasons militate against the long-term retention of that which could be used. Most Soviet equipment is more expensive to maintain. Furthermore, as a member of NATO, Bonn is loathe to become dependent on the Soviet Union for the supply of spare parts. In addition, faced with the enormous task of reducing its armed forces to 370,000 by the end of 1994, Bonn does not need all the equipment it inherited with the collapse of the GDR. Finally, the *Bundeswehr* must comply with the provisions of the CFE Treaty to eliminate major items of equipment (see fig. 4). When the old *Bundeswehr* and the NVA's holdings are combined, Germany will have to eliminate 41 percent of the main battle tanks, 61 percent of the armored fighting vehicles, 42 percent of the artillery and

14 percent of the fighter aircraft. Most of the items removed from the inventory will logically come from the holdings of the NVA.<sup>26</sup>

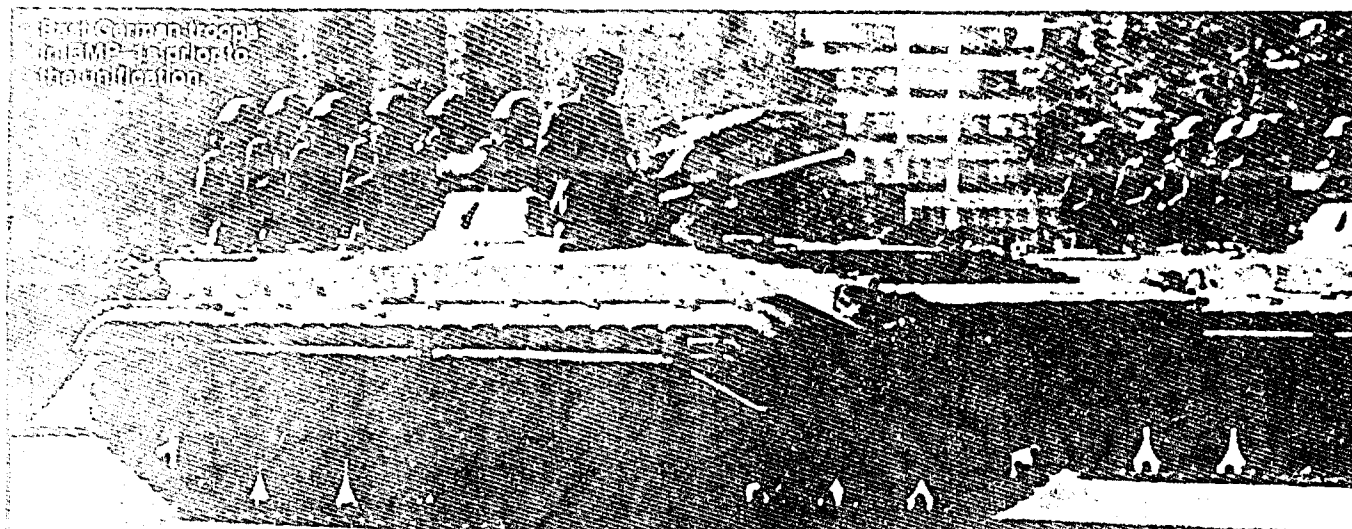
To determine what materiel should be retained, Bonn devised certain criteria. The most important consideration is whether there is a need. Then an item must be logistically and economically supportable over time without creating any dependency relationship. Further, one must consider the problems caused by the fact that the Soviets' safety standards are much lower than the *Bundeswehr's* and thus could add considerable expense for necessary modifications.<sup>27</sup> Based on these criteria, the equipment of the NVA was divided into three categories: one, materiel useable for a permanent or limited term basis; two, materiel that can be used temporarily but whose further disposition needs to be evaluated; and three, materiel not to be used after 3 October 1990.

The bulk of the NVA's materiel belonged to the army. In fact, its holdings turned out to be much more than anticipated. The NVA had hidden enough weapons and ammunition (stored in protected and often heated warehouses) to outfit five additional divisions beyond the six that it had always claimed. Upon discovery of the hidden equipment in November 1990, West German observers noted that the NVA ironically had provided much better facilities for its materiel than for its troops. These "ghost divisions," disguised as "training centers," were manned at 20 percent by active personnel and 80 percent by reservists who were supposed to be able to mobilize within 48 hours.<sup>28</sup>

The German army will probably get rid of all of the NVA's 2,222 tanks (mostly the older

Category	Number	Limit	Reduction
Main Battle Tank	7075	4166	2909 (41%)
Armored Fighting Vehicle	8950	3446	5504 (61%)
Artillery	4639	2705	1934 (42%)
Helicopters	259	306	0
Fighter Aircraft	1050	900	150 (14%)

Figure 4. Limits and reductions of the *Bundeswehr* according to the CFE data exchange. Figures represent total of original *Bundeswehr* and NVA holdings.



*The equipping of the territorial forces of eastern Germany reflects the Bundeswehr's preliminary decision not to use most of the NVA's materiel. One third of the brigades (one per territorial command) were to receive the Leopard 2 main battle tank, while the rest will use the older Leopard 1A5. The armored reconnaissance battalions will also receive the Leopard 2.*

T-54 and T-55s) with the possible exception of the pride of the East German tank corps, its 549 T-72s. Militating against Bonn's keeping the T-72 are concerns about dependency on Moscow and about the increased cost of too many kinds of equipment. The armored combat vehicles, BMP-1 and BTR-70 (SPW-70 in the NVA's lexicon) will apparently remain in service in the mechanized infantry battalions until the end of the decade, when the German Marder 2 will be phased in. Of the artillery assets the Bundeswehr plans to keep the 400 towed 122mm D-30 howitzers for training purposes and to use up the more than 500,000 rounds of ammunition that came with them. But the 374 self-propelled 122mm S-1 howitzers will not be retained.

Four additional weapons will also be placed in service of the new German army on an interim basis to take advantage of the large stocks of ammunition: the 265 RM-70 multiple rocket launchers, 291 120mm mortars, 924 23mm twin anti-aircraft guns and 165,000 AK-74 assault rifles (an East German copy of the Soviet AK-47) that come with 250 million rounds of

ammunition. In the small arms category, the NVA was much better equipped than West Germany with approximately one million rifles, 700,000 machine pistols and more than 40,000 machineguns.<sup>29</sup>

The equipment disposal situation in the air force and navy presents much less of a problem than with the army. The air force will undoubtedly dispose of all of the NVA's antiquated fighter planes: 251 MiG-21s, 47 MiG-23s as well as 50 Su-22 fighter bombers. Defense Ministry officials seem tempted to try to keep the 24 MiG-29s in the inventory at least until the Soviets leave Germany at the end of 1994, which should permit easy access to spare parts on an interim basis. On the other hand, Bonn is wary of becoming dependent on Moscow in the longer term and may also be deterred by the higher maintenance costs. According to *Defense News*, the MiG-29 needs an engine change every 400 to 500 flight hours compared to every 3,000 flight hours for the Tornado.<sup>30</sup> The German navy will eliminate all of the NVA's assets except for the few ships to be employed on an interim basis primarily for coast guard operations.



A former East German Fuchs chemical detection vehicle being loaded onto a C-5 Galaxy for delivery to US forces in the Persian Gulf, Ramstein Air Base, Germany, fall 1990.

*Bonn officials have addressed the daunting task of disposing of vast amounts of equipment including thousands of armored vehicles and hundreds of thousands of tons of ammunition that Germany inherited from the NVA. . . . Bonn distributed some of this materiel to US forces in the Middle East and to Saudi Arabia, Turkey and the Arab coalition partners as part of Germany's contribution to the Gulf War.*

## Merger of Two Armies

Problems of organization and disposition of materiel may well pale next to the difficulty of merging two forces that had considered each other enemies for 40 years. While the reorganizing and equipping of the *Bundeswehr* should be complete by 1995, the process of restitution of the German nation may take at least a generation. As von Scheven, chief of the army's Eastern Command noted, "The separation was not just geographical; it was also in the minds of the people."<sup>31</sup>

The phenomenon of merging the two German armies may be unprecedented. Historians at the *Bundeswehr's* Leadership Center at Koblenz have combed through the centuries and cannot find another task like theirs: absorb, more or less as equals, an enemy army acquired in friendship and peace.<sup>32</sup> Knitting East and West Germany together may be somewhat comparable to reconstruction following the American Civil War, a process that in some areas has not healed the wounds of animosity after more

than 125 years. Although the Germans never had to go to war against each other and therefore have no dead to grieve (except for the approximately 200 people killed trying to escape the GDR by NVA border troops), they were divided much longer (40 years as opposed to five).<sup>33</sup>

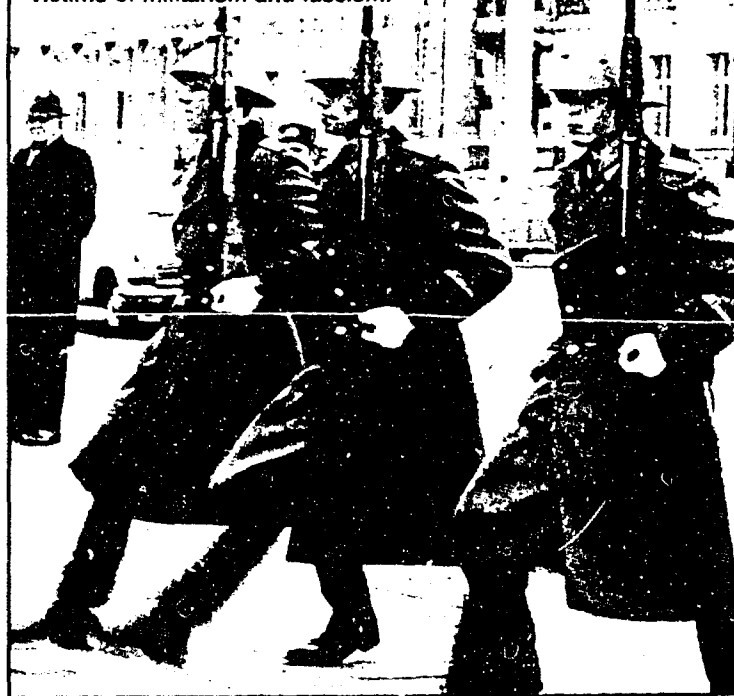
The German military resolved to take the lead in national restitution. Minister of Defense Stoltenberg set the tone on 3 October 1990, upon taking over the East German military in Strausberg: "The prerequisite for unity is reconciliation."<sup>34</sup> Schönbohm elaborated further as he assumed command of *Bundeswehrkommando Ost*: "Our goal is to form armed forces according to the model of the free, emancipated citizen." Schönbohm continued, "to realize the idea of the citizen in uniform requires a complete change of consciousness."<sup>35</sup> Both Stoltenberg and Schönbohm urged the unified German military to confront together as comrades the markedly different traditions of East and West, rather than to gloss them over, in order to help the former NVA break with the past and to

pave the way for the future.

Merging the two forces encountered doubts, resistance and confusion on both sides. The question seemed to deeply divide West German officers, at least initially.<sup>36</sup> Opinion ranged from calls for wholesale dismissal of all NVA officers to pleas for total retention in the interest of harmony.<sup>37</sup> Some asked how one could serve in the same military with communists while others remarked that former NVA officers would dirty the *Bundeswehr* uniform.<sup>38</sup> On the East German side, officers expressed resistance to "going over to the enemy;" some clung to the ideals of true communism despite disappointment that the GDR's version turned out to be a failure if not a fraud.<sup>39</sup> Others seemed insecure about fitting in to the new *Bundeswehr* because of the different atmosphere. Many former NVA officers worried understandably about their future, a problem that West Germans apparently will not have, as Defense Minister Stoltenberg promised that the reorganization would not put them out of a job.<sup>40</sup>

The two systems were indeed very different. The NVA was the military force of the Communist Party; its mission was to secure the rule of the party. The *Bundeswehr* was committed to support the democratic order of the Federal Republic of Germany according to the principle of the "citizen in uniform." The NVA members took an oath to commit their lives to defend socialism "on the side of the Soviet Army and of the armies of the allied socialist countries".<sup>41</sup> While the NVA had become the linchpin of the Warsaw Pact, the *Bundeswehr* developed into the most powerful member, after the United States, of NATO—pledged to defend the common values of Western civilization. The NVA built on the Prussian-*Wehrmacht* tradition of harsh discipline that increased in intensity as it adopted the Soviet model. The West Germans abandoned much of the Prussian legacy and developed a very enlightened form of discipline and leadership based on the idea that an army in a democracy must treat people fairly, a program known as *Innere Führung*. The distinction between old *Bundeswehr* and NVA discipline is focused in the East's idea of "troop leadership" (*Trup-*

Soldiers at the changing of the guard at the *Neue Wache*, a World War I memorial that the East German government changed into a monument to the victims of militarism and fascism.



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*penführung*) and the West's "leadership of human beings" (*Menschenführung*). Finally, West German officers would argue that while their NVA counterparts have been trained well in a technical sense, they tend more to wait for orders and lack initiative and creativity.

These kinds of issues have become a central core of the training program for NVA officers that began even before unification to familiarize them with the principles of *Innere Führung* so that they could begin to function as citizens in

uniform.<sup>42</sup> In addition to instruction on parliamentary democracy and the status of the military, the duties and rights of the soldier, human rights and ethics, the program of integration will attempt to build on the positive traditions of the German military.<sup>43</sup>

One tradition that both forces shared, albeit in different ways, was reverence for the Prussian military reformers such as Scharnhorst, Gneisenau and Carl von Clausewitz, who helped rebuild the Prussian state after the humiliating defeat by Napoleon in 1806. The *Bundeswehr* chose the 200th anniversary of Scharnhorst's

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birth to commission its first group of officers in 1955. West Germany made the Prussian reformers the spiritual forerunner of today's *Innere Führung*, emphasizing their attempts to democratize German society, to link the army closer to the people, to introduce general conscription and to forge a new relationship between officers and privates.<sup>44</sup> The NVA also honored Scharnhorst; its highest military decoration bore his name. Yet the NVA chose to emphasize other aspects of the Prussian reformers' work in order to legitimize the communist regime, particularly its alliance with the Soviet Union. The leaders of the GDR never tired of reminding the population that Scharnhorst strongly advocated Prussia's alliance with Russia that culminated in the defeat of Napoleon in Leipzig in 1813.<sup>45</sup>

Another German military tradition that will undoubtedly serve to help merge the two Germanies is the 20th of July assassination attempt

on Hitler in 1944.<sup>46</sup> West Germany has long used the courage and bravery of the *Wehrmacht* officers who gave their lives attempting to overthrow the Nazi regime as the model for their citizens in uniform. While the GDR never made the 20th of July one of its military traditions (because the conspirators were either aristocrats or arch conservatives), East Germany did begin to rehabilitate some of the officers on the 40th anniversary of the attempt in 1984. In a gesture that testified to the symbolic power of the 20th of July, the NVA took a new oath to the democratic government of the GDR in 1990.<sup>47</sup>

In the process of merging the two militaries, Bonn hoped to assuage the feelings of the people of the former GDR by eschewing the posture of conqueror and thereby countering the fear of many East Germans that they would only be vanquished, second-class citizens of a united Germany.<sup>48</sup> At the same time, however, the new *Bundeswehr* had to deal with the realities of a bloated NVA officer corps, of which 98 percent belonged to the Communist Party, the highest percentage of party membership in the Warsaw Pact including the Soviet Union, and whose ratio of officers to men was approximately five times that of West Germany.

Unfortunately, measures to sort out the NVA's officers could not avoid inflicting considerable pain. After much discussion, the Bonn government decided to keep 4,000–5,000 former NVA officers in the future force. Before unification, all generals and officers over the age of 50 were dismissed. The rest could apply for service in the *Bundeswehr* and would be accepted if they passed a two-year review of their security, reliability and competency. They would have to demonstrate their willingness to serve in a democratic order. Those who remained in service after unification found themselves demoted at least one grade, because promotions came slower in West Germany, and their pay, at least for an interim period, would be approximately one-third of their Western counterparts taking into consideration the economic disparity between East and West.<sup>49</sup> The prospects of junior officers surviving the two-

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year probation period seem good, but more senior officers may not have much chance.

Now that the ground rules for merger have been established, it appears that the process is well under way. The Bundeswehr will not have to weed out as many candidates as expected. As of April 1991, approximately 10,500 former NVA officers had applied for two-year hitches, of whom less than one-third would be granted permission to serve. The rest of the NVA officer corps apparently decided not to apply for service, having resigned either to accept the *Deutsche Mark* (DM) 7,000 severance pay or to avoid the "humility" (according to *Der Spiegel*) of filling out forms that asked such questions as whether they had relatives in communist countries.<sup>50</sup>

The biggest problem in recruiting East Germans for the Eastern Command has turned out to be a shortage of NCOs. The NVA never groomed either the quantity or quality of NCOs as in West Germany; officers in the NVA often performed functions assumed by NCOs in the West. In the NVA, the ratio of officers to NCOs was one to one, while in the West it was one to three.<sup>51</sup> In addition, the shortage may reflect reluctance to serve in the military, a reaction against the highly militarized society of the former GDR. To compensate for the shortfall, Bonn has transferred NCOs from the West, a move that has proven to be unpopular because the barracks, usually without showers and messing facilities, often lacking hot water for proper sanitation, lag far behind Western standards. In fact, the opportunity to move east has proved to be unattractive to officers as well, despite the fact that some would welcome such service for the experience of getting to know the "other Germa-

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ny." But considerations of the poor quality of schools and the generally run-down—if not ecologically unhealthy—environment deter many from voluntarily transferring.<sup>52</sup>

## Outlook

Despite the difficulties involving the fusion of the two German states, the prospects of success appear good. They are undoubtedly less difficult than the enormous economic, social and political problems that will need to be solved. Nevertheless, one predicts success because of the older commonalities that the two former enemies share—their common language and culture that 40 years of misrule could not possibly have destroyed. To this culture belong a tradition of service and military honor that originated in the Prussian monarchy and culminated in the attempted assassination of Hitler on the 20th of July 1944. If everything goes as planned, by the end of 1994, the Bundeswehr will have completed its restructuring and made major steps toward the integration of a united Germany. **MR**

## NOTES

1. Both terms, *Bundeswehr* and *National Volksarmee* (NVA), encompass the three branches of service: air, land and sea.

2. Gary Lee, "Gorbachev Drops Objection to United Germany in NATO," *Washington Post* (17 July 1990); "Deutschland und die Sowjetunion an einem neuen Anfang," *Frankfurter Allgemeine Zeitung* (17 July 1990); Robert Leicht, "Don Frieden mit Deutschland gemacht," *Die Zeit* (27 July 1990). For a discussion of the demise of the NVA see Joseph S. Gordon, "The GDR: From Volksarmee to Bundeswehr," in *European Security Policy after the Revolutions of 1989*, ed. Jeffrey Simon, (Washington, DC: National Defense University Press, 1991), 157–87.

3. *Treaty on the Final Settlement with Respect to Germany* (12 September 1990).

4. Appended to the Conventional Forces in Europe (CFE) treaty is the "Declaration by the Government of the Federal Republic of Germany on the Personnel Strength of the German Armed Forces" in which Germany pledged to adhere

to the 370,000 total ground, air and naval forces of which ground and air forces will total no more than 345,000. *Treaty between the Twenty Two Sovereign Nations on the Reduction of Their Conventional Armed Forces in Europe* (19 November 1990), 112.

5. "Broad Outlines of Force Reorganization Sketched," *SOLDAT UND TECHNIK* (March 1991), FBIS-WEU-91-082 (29 April 1991):26.

6. Friedrich Steinseifer, "Zusammenfügen und verdeinern," *Truppenpraxis*, no. 1 (1991):19. Because the German military has been in such a state of flux, the figures of its strength at any given time tend to vary considerably. According to *SOLDAT UND TECHNIK* the Bundeswehr's total strength as of March 1991 was approximately 518,000 in part because of shortened term of conscription and resignations from the NVA. "Broad Outlines of Force Reorganization Sketched," 26.

7. Günther Gillesen, "Das schrittweise Ende einer Armee," *Frankfurter Allgemeine Zeitung* (22 November 1990); Karl Feldmeyer, "Soldaten dürfen nicht

auf der Straße stehen," *Frankfurter Allgemeine Zeitung* (30 November 1990).

8. Five summary articles on reorganization have appeared in German-language periodicals: Friedrich Holtzendorf, "Die Bundeswehr im Prozess der Vereinigung. Die gesamtdeutsche Streitkraft nach ein Bild in vagen Konturen," *Europäische Wehrkunde*, no. 11 (1990): 626-34; Friedrich Steinsieker, "Zusammenfügen und verdeinen," *Truppenpraxis*, no. 1, (1991):8-23; "Die Bundeswehr im beigesteuerten Teil Deutschlands," *SOLDAT UND TECHNIK*, no. 11, (1990):773-80; "Maßnahmen zur Übernahme der ehemaligen Nationalen Volksarmee," *Österreichische Militärische Zeitschrift*, no. 1 (1991):76-78. The last of the five articles from *Wehrtechnik* (November 1990), appeared in English translation as "Interim Structure of Eastern Command Detailed," *FBIS-WEU-91-013* (18 January 1991):228. On leadership changes see "New Bundeswehr Leadership Structure Detailed," *Frankfurter Allgemeine Zeitung* (23 March 1991), *FBIS-WEU-91-057* (15 March 1991):21.

9. "Maßnahmen zur Übernahme der ehemaligen Nationalen Volksarmee," 78. For a discussion of the new army structure see Henning von Odratz, "Das Heer auf dem Wege zu seiner künftigen Struktur. Parameter der Planung für eine neue Situation," *Europäische Sicherheit*, no. 2 (1991):77-84.

10. "Odratz Outlines Ground Force Defense Planning," *Wehrtechnik* (December 1990), *FBIS-WEU-91-019* (29 January 1991):11-14; Burkhard Franck, "Weder Populärer noch Bremsklotz. Führung nichtaktiver Truppenteile im Frieden," *Truppenpraxis*, no. 6 (1990): 598-99.

11. "New Bundeswehr Command East Chief Appointed," *Berlin ADN* (16 April 1991), *FBIS-WEU-91-074* (17 April 1991):10.

12. Steinsieker, "Zusammenfügen und verdeinen," 20; "Maßnahmen zur Übernahme der ehemaligen Nationalen Volksarmee," 76.

13. Steinsieker, "Zusammenfügen und verdeinen," 20.

14. Karl Feldmeyer, "Relative Command, Structural Changes Revealed," *Frankfurter Allgemeine Zeitung* (9 March 1991), *FBIS-WEU-91-068* (9 April 1991):21-22.

15. Friedrich Holtzendorf, "Rahmen und Rohentwurf für die künftige Bundeswehr," *Europäische Sicherheit*, no. 2, (1991):34-37.

16. "Odratz Outlines Ground Force Defense Planning," *Wehrtechnik* (December 1990), *FBIS-WEU-91-019* (29 January 1991):11-14.

17. Holtzendorf, "Rahmen und Rohentwurf," 86; "Luftwaffe Chief Reviews Challenges, Problems," *Wehrtechnik* (December 1990), *FBIS-WEU-91-025* (8 February 1991):22-28; "Broad Outlines of Force Reorganization Sketched," 27.

18. Erich Kissenbauer, "Air Policing über Deutschland," *Truppenpraxis*, no. 2 (1991):34-37.

19. Holtzendorf, "Die Bundeswehr im Prozess der Vereinigung," 632-64; Steinsieker, "Zusammenfügen und verdeinen," 19-20. "Future of MiG-29's in Air Force Discussed," *Der Tagesspiegel* (17 November 1990), *FBIS-WEU-91-010* (15 January 1991):31-32.

20. Holtzendorf, "Rahmen und Rohentwurf," 86; "Navy Chief Seeks Elaborate Fleet Restructuring Plan," *Wehrtechnik* (December 1990), *FBIS-WEU-91-021* (31 January 1991):28-30; "Stötenberg Details Bundeswehr Reorganization," *Frankfurter Allgemeine Zeitung* (27 February 1991), *FBIS-WEU-91-041* (1 March 1991):14-15.

21. For a list of 30 NVA ships taken over by the German navy see "Von der ehemaligen NVA-Vollmarine wurden folgende Einheiten übernommen," *Marineforum* no. 12 (1991):39. See also Steinsieker, "Zusammenfügen und verdeinen," 20-21.

22. "Bundeswehr-Feats Abandoned by Policymakers," *Der Spiegel* (25 March 1991), *FBIS-WEU-91-079* (24 April 1991):23. This article estimated that 40 percent of the troops' time was spent on guard duty, a figure that seems exaggerated perhaps to make a point. See also "Waffenbestände," *Leipziger Volkszeitung* (11 November 1990), reprinted in *Pressespiegel* (17 December 1990): 2-3.

23. "Polen will NVA-Ausrüstung umsonst," *Süddeutsche Zeitung* (6-7 October 1990):7. "Hungary's Fur Interested in Former NVA Weapons," *Berlin ADN* (4 May 1991), *FBIS-WEU-91-087* (6 May 1991):5.

24. Giovanni de Briganti, "Germans Seek Ammo Solution," *Defense News* (25 March 1991), 1 and 61; David Silverberg, "Germany Looks for Buyers of Surplus, Obsolete Equipment," *Defense News* (15 April 1991), 5.

25. Helge Bandow and Sylvester v. Rudzinski-Rudno have thoroughly addressed the process of ammunition destruction with emphasis on air force ordnance: "Erdbeben. Probleme der Entsorgung von Munition im Bereich der Luftwaffe," *Truppenpraxis*, no. 2 (1991):129-33.

26. Wolfgang Flume, "Was geschieht mit dem NVA-Material," *SOLDAT UND TECHNIK* no. 11 (1990):761-63; Klaus-Peter Köhler, "Verifikation der Abfertigung vom Atlantik bis zum Ural. Einzug der Inspektoren," *Europäische Sicherheit*, no. 2 (1991):108-109.

27. Security of Ex-NVA Arms, Munitions Inadequate," *Der Spiegel* (31 December 1990), *FBIS-WEU-91-018* (28 January 1991):23-24.

28. "NVA bases off still active Divisions," *Frankfurter Allgemeine Zeitung* (30 November 1990):3; "NVA: El Divisoren," *Europäische Wehrkunde* no. 12 (1990):663; Heinz Schulte and Holly Porteous, "NVA Had Arms for Five Divisions," *Jane's Defence Weekly* (18 February 1991):219.

29. Information on the disposition of the NVA's is derived primarily from four sources already cited: Flume, "Was geschieht mit dem NVA-Material"; Steinsieker, "Zusammenfügen und verdeinen"; "Maßnahmen zur Übernahme der ehemaligen Nationalen Volksarmee," and "Interim Structure of Eastern Com-

mand Detailed." As of May 1991, the first of an estimated 760 BMP-1s had been converted to Western standards. "Military Vehicles Converted," *Hamburg DPA* (6 May 1991), *FBIS-WEU-91-088* (7 May 1991):6.

30. De Briganti, "Germans Seek Ammo Solution."

31. Quoted in David C. Morrison, "Germany Merges its Militaries," *National Journal* (20 April 1991):933. The cultural separation may be more severe than anticipated according to Marc Fisher, "Germany Divided by 'Wall in the Head'. Psychological Gap between East and West Affecting Unification," *The Washington Post* (11 May 1991), A1,17.

32. Marc Fisher, "East German Army Does About-Faces. Officers Steeped in Soviet Doctrine, Learning the Western Way," *The Washington Post* (28 October 1990), A20.

33. David Morrison pointed out the similarities between the American and German experience in "Germany Merges its Militaries," 933.

34. Quoted in Holtzendorf, "Die Bundeswehr im Prozess der Vereinigung," 626.

35. Ibid. The full text is printed in "Die Bundeswehr im beigesteuerten Teil Deutschlands," 776.

36. For an analysis of the discussion, see Günter Holzweissig, "Auflösen - ohne Rest," *Deutschland Archiv*, no. 10 (1990):1553-56. Lothar W. Brenne-Wegener argued against casting stones, "Kameraden oder Bösewichter," *Truppenpraxis*, no. 5, (1990):440-43.

37. Günther Gilleßen, "An Argument in Favor of Putting 30,000 Volksarmee Officers on the Dole," *Frankfurter Allgemeine Zeitung* (25 July 1990), reprinted in *The German Tribune* (5 August 1990), 4; Dietrich Rogler, "Es geht um die Glaubwürdigkeit unserer Armees," *Europäische Wehrkunde*, no. 11, (1990):621-22; "Leserforum" contained several letters expressing diverse opinion in *SOLDAT UND TECHNIK*, no. 5, (1990):310-12.

38. "Schwer zu verdauen," *Der Spiegel*, no. 41, (8 October 1990):32.

39. "Übertritt zum Feind," *Thend*, no. 26, (1990), reprinted in *Pressespiegel*, no. 16, (24 October 1990):3-7.

40. "Ex-NVA Soldiers Cite Bundeswehr Experiences," *Der Morgen* (14 March 1991), *FBIS-WEU-91-088* (9 April 1991):22-24. On Stötenberg's promise see Steinsieker, "Zusammenfügen und verdeinen," 21.

41. The full oath of the NVA is printed in Ulrich Rühmland, *NVA in Stichworten*, 7th ed., (Bonn: Bonner Druck- und Verlagsgesellschaft, 1995), 38. It remained in force until 27 April 1990, when a new oath supportive of the democratic order went into effect. All members of the NVA took the new oath en masse on 20 July 1990. "Fünf Minuten vor Zwölf. Tausend auf Noch-DDR," *Thend*, no. 17, (1990):1 and 3.

42. Horst Prayon, "Die Kurse zum Kameraden. Die Feinde von einst sollen Kameraden werden," *Europäische Wehrkunde*, no. 11, (1990):538-67; Klaus-Jürgen Engelen and Hans-Joachim Fiebig, "Wer bist du - Kamerad? Der Versuch einer Beschreibung des ehemaligen NVA-Offiziers," *Truppenpraxis*, no. 6, (1990):550-53; Georg-Maria Meyer, "Vom Kameradentum zum Kameraden? Soziale Deutungsmuster von Offizieren der NVA," *Aus Politik und Zeitgeschichte* B 39/90 (31 August 1990):32-39; Ulrich A. Hundt, "Innere Führung - eine gut Möglichkeit für die Bundeswehr OSt," *Truppenpraxis*, no. 2, (1991):165-67.

43. For a good summary of the Bundeswehr's training concept see Bernd Proß, "Der Mensch - das Messerliche Ding. Das Ausbildungskonzept der Bundeswehr für die 90er Jahre," *Truppenpraxis*, no. 6, (1990):568-72.

44. Donald Abernethy, *Reforging the Iron Cross: The Search for Tradition in the West German Armed Forces* (Princeton: Princeton University Press, 1986), 168.

45. For a comprehensive description of the NVA's military traditions see Helmut Schmitter, et al., *Vom Bauernheer zur Volksarmee. Fortschrittliche militärische Traditionen des deutschen Volkes* (Bonn: Militärvetlag der DDR, 1979).

46. Hans Speidel and Rolf Trull, "Der 20. Juli - ein moralischer Imperativ. Von der Wehrmacht zu gesamtdeutschen Streitkräften," *Truppenpraxis*, no. 5, (1990):444-47.

47. "Fünf Minuten vor Zwölf. Tausend auf Noch-DDR."

48. "We do not come as victors to the vanquished, but as Germans to Germans," said General Schönbohm in "The JOW Interview," *Jane's Defence Weekly* (23 March 1991):456.

49. *Der Spiegel* has focused in two articles on the human side of military unification: "Schwer zu verdauen," no. 41, (8 October 1990):32-37 and "Bundeswehr-Feats 'Abandoned by Policymakers,'" no. 13, (25 March 1991), *FBIS-WEU-91-079* (24 April 1991):20-24.

50. "Bundeswehr to Absorb Former GDR Officers," *Berlin ADN* (18 April 1991), *FBIS-WEU-91-078* (19 April 1991):3; "Waffenbestände," 3; the *Spiegel* article has been cited as "Bundeswehr-Feats 'Abandoned by Policymakers,'" 22.

51. "Shortage of NCO's in Eastern Forces," *Die Welt* (24 December 1990), *FBIS-WEU-91-019* (29 January 1991):14-15.

52. Holtzendorf, "Rahmen und Rohentwurf," 87; idem, "Das Risiko und die Chance der ehemaligen NVA-Soldaten," *Europäische Wehrkunde*, 10 (1990):564. Stötenberg estimated that *Deutsche Alerk* (DM) 16 billion would be necessary to bring the former NVA facilities up to Western standards. DM 431 million will be spent for rehabilitation in 1991. "Stötenberg on Financial Problems of Bundeswehr," *Frankfurter Allgemeine Zeitung* (14 March 1991), *FBIS-WEU-91-050* (14 March 1991): 24-25.

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# Perspectives on **BATTLE** INFORMATION MANAGEMENT

*It has been said that we now live in an "Information Society." Just about everything that goes on in the world around us is related to access to information. This is also true in the chaotic environment of the current and future battlefield. However, in our quest to provide commanders with more and better information, we have encountered the debilitating problem of information overload. The proliferation of automated systems, volumes of reports and the thirst for complete or perfect information can bring a command post to a standstill, making it impossible for a commander to make an informed decision. The following articles point out the pitfalls associated with information management in tactical command and control centers and offer a methodology for identifying the commander's critical information requirements and providing him the information needed for timely decision making.*

# Commander's Control From Information Chaos

Major Thomas B. Giboney, US Army

**A**FTER THREE days of extreme pressure in the tactical operations center (TOC), the 52d Division (US) commander now has to make the decision to commit the reserve and destroy the enemy—or be destroyed himself. The enemy independent tank regiment has just broken through the first brigade. The trap is set and the US reserves are in position. The word is given . . . *attack now, decisively defeat the enemy's tanks.*

Hours later, defeat is certain. Vehicles are brightly burning across the entire horizon. Combat service support elements are overrun by enemy tanks, blazing in the passion of pursuit. The 52d Division crumbles in defeat. Luckily, the training simulation computer is stopped.

The commander is baffled and frustrated; his personal and professional pride hurt. He was clearly decisive and made the correct call. His chain of command was responsive, talented and resourceful. What went wrong?

The US division commander was fighting a battle that never existed. The information that was available to him at the critical time caused him to spar with a fleeting shadow. The enemy's tank regiment had penetrated the first brigade hours earlier and was moving rapidly and unopposed through the brigade's rear. The reserve was carried at 90 percent when in reality it was under 60 percent from a recent attack and was undergoing hasty decontamination. It was fixed and useless.

Bluntly stated, the commander could not "see the battlefield." He had volumes of information, but no coherent image of his operations. Without a methodology for information management, the US commander's logical

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decision had no logic at all.

The magnitude of the problem of information management, as in this example, is repeatedly observed in large unit Battle Command Training Program (BCTP) WARFIGHTER exercises. Commanders are overwhelmed by an avalanche of incoming information. Staffs generate repetitious and inconsequential information. Costly technological advances, designed to help, often only exacerbate and accelerate the problem. As a result, key decisions are made on old, inaccurate information with consequences commensurate with the poor quality of information. Recent experiences on BCTP WARFIGHTER exercises led to the following observations:

- The volume of information is totally unmanageable. During one WARFIGHTER, a division main command post processed over 6,000 messages in one day. Uncounted were the short, cryptic telephone communications.
- The staffs set information requirements that choke the system. At one corps WARFIGHTER, over 96 daily reports were required. Most were unnecessary, long and laborious. The

largest group of reports was from the corps engineers. Even the corps chaplain required a separate report from each subordinate chaplain in

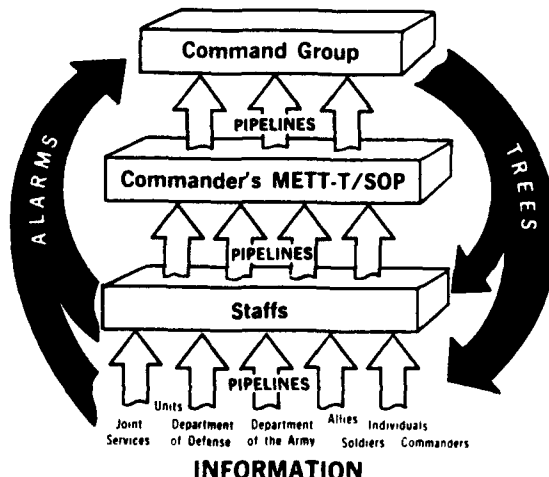
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***The volume of information is totally unmanageable. During one WARFIGHTER, a division main command post processed over 6,000 messages in one day. . . . The staffs set information requirements that choke the system. At one corps [exercise], over 96 daily reports were required. Most were unnecessary, long and laborious.***

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the corps, causing hundreds of supporting daily reports. The adjutant general (AG) had a 22-line report per each casualty to be reported over the command channel.

- Technology, especially in the form of computers, advertised as the panacea, becomes part of the problem. For lack of an effective queuing system, many units are unable to effectively use the current Maneuver Control System (MCS). By day three of a five day WARFIGHTER, some units were already mired in unnecessary information. And the proliferation of laptop models causes inordinate information delays as anxious majors line up to make slides for the command group's daily "follies."



As a validation of this peacetime training experience, one frustrated commander during Operation Desert Shield repeatedly asked his staff to "tell me what you are telling me" when deluged with impressive but meaningless volumes of information.

### Commander's Control: CCIR

Commanders need a methodology for information management. It should be a balance of both high technology and people processes. It should be able to identify key information (to separate the wheat from the chaff) and also be flexible enough to effectively handle changing situations. Just such a methodology exists today in the Commander's Critical Information Requirements (CCIR) (fig. 1).

Commanders are constantly surrounded by masses of information in both peace and war. Most of it is needed for day-to-day operations of any unit while a small, select amount is absolutely critical for the commander. To bring order to this chaos, the mass of information should be separated into pipelines, alarms and trees.\*

- *Pipeline* information is the standard, repetitive information between units. Pipeline information is hailed "staff to staff," and the commander should only rarely be involved. Pipelines are predetermined by the commander's standing operating procedures (SOPs).

- *Alarm* information is the key information essential for the commander to make the command decisions for a specific situation. The commander's estimate and wargaming create the alarms. Subordinates may implicitly create alarms based upon their understanding of the commander's image of the battlefield.

- *Tree* information is the information exchange between the commander and his staff and subordinate commanders. It is the commander's verification and updating of his commander's estimate of the current and future situation. It is leadership's face-to-face communication of the commander's intent and the

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\*James P. Kahan, D. Robert Worley and Cathleen Stasz, *Understanding Commanders' Information Needs*, RAND Corporation, Santa Monica, CA, June 1989.

***The importance of alarms is inherent in its name: ALARM! They indicate an important exception to the commander's image of the battlefield. Alarms should not be delayed for any reason. Alarms should skip echelons in their transmission. Bad news . . . cannot wait for "staffing."***

assessment of the readiness of his subordinate commanders, staffs and units.

## Command Post Organization

The physical organization and presentation of information within a command post will significantly impact on the efficiency of CCIR. The TOC within the headquarters will have a command center and staff sections. Key functions of

the staffs are effectively fused, such as current operations with maneuver, intelligence and fires, A<sup>2</sup>C<sup>2</sup> (Army Airspace Command and Control) with maneuver, fires, air defense, Army air and Air Force. Both the command center and staff sections will maintain qualitative (verbiage) and quantitative (map and chart) information displays. Information is forwarded from the staff sections to the command center by the principle of management by exception. The exceptions are established by SOP for pipelines and by METT-T (mission, enemy, terrain, troops, and time available) for alarms.

**Pipelines.** Pipeline information is habitual communication and is maintained between staffs. Only a very small amount of pipeline information is essential for the commander to get a basic sensing of the battlefield. This information would be automatically forwarded to and updated in the command center per the unit's

### Qualitative (verbiage)

#### Maneuver

Mission

Intent

#### Intelligence and Electronic Warfare

Intelligence Estimates

Priority Intelligence Requirements

Enemy Kill Chart

Collection Plans

Weather Forecast

Weather Effects

#### Fire Support

Priorities

US Air Force Apportionment

US Air Force Distribution

Close Air Support Distribution

Targeting Priorities

Nuclear, Biological and Chemical Employment

#### Engineer

Engineer Priorities

#### Air Defense

Enemy Air Threat

Air Defense Artillery Weapons Control

#### Combat Service Support

Main Supply Route Status

US Casualties

### Quantitative (map)

#### Maneuver

Friendly Locations

Battlefield Geometry

Decision Support Template

#### Intelligence and Electronic Warfare

Enemy Situation

#### Fire Support

Coordination Measures (FSCL [fire support coordination line], RIPL [reconnaissance and interdiction planning line])

#### Engineer

Obstacles

#### Combat Service Support

MSRs

Logistics Bases

#### Nuclear, Biological and Chemical Employment

Contaminated Areas

### Quantitative (chart)

#### Maneuver

Task Organization

Major Subordinate Command (MSC) Commander Assessment: M1, M2, M3, Attack Helo, Field Artillery, Class III, Class V, Pax (personnel)

#### Intelligence and Electronic Warfare

MSC status: COMINT, ELINT, IMINT, Linguists, IEW Maint, Pax

#### Fire Support

MSC status: ATACMS, MLRS, 155mm, 105mm, 8in, Tac Fire, Tgt Radar

#### Engineer

MSC status: AVLB, Float Bdg, Dozers, CEV, Class IX

#### Air Defense

MSC status: Stinger, Vulcan, Hawk, Patriot, Class V

#### Combat Service Support

MSC status: Class III, Class V, Class I (H2O), Pax, Main Supply Route Status, Hospital Capability, Casualties Evac

#### Nuclear, Biological and Chemical Employment

MSC status: Recon, Decon, Smoke

Figure 2.

SOP. For example, an operational-level command center in mid-intensity, offensive combat would display the information in figure 2.

Although this may seem an extensive list, the commander is actually exposed only to the minimal pipeline information. The map contains only the basic battlefield geometry for maneuver, fires and combat service support (CSS). The qualitative (verbiage) is a reminder of the current order with its specified taskings. The quantitative (charts) is the "lollypop" charts reflecting the major subordinate commands (MSC) commander's assessment (red, amber, green, black) and not the specific numbers. The staff sections retain the supporting data.

Effective use of pipeline information by the 52d Division commander would have minimized the time delays of the reporting by the chain of command and long range surveillance detachments (LRSDs) reports of the location of the enemy tank regiment. A quick cross-check of command center information would have verified that the focus of combat power be to a properly weighted effort to the first brigade.

**Alarms.** Alarms are very specific, key information needs. They are required to monitor both the friendly and enemy situation to accomplish a specific concept of operations. Alarms are created from three perspectives:

- How the commander sees the enemy.
- How the enemy sees the commander.
- How the commander sees himself.

How the commander sees the enemy and how the enemy sees the commander are doctrinally defined as the priority intelligence requirements (PIR) and essential elements of friendly information (EEFI). PIRs confirm or deny that the enemy is or is not conforming to our plans. EEFI identifies our vulnerability to enemy detection and prompt protective action. PIRs are specified in paragraph 1 of the operations order (OPORD); EEFI is specified in paragraph 3, coordinating instructions.

Key information needs on friendly forces are friendly forces information requirements (FFIR). The commander established FFIR as

the few key information needs about his unit of which he has the least flexibility and are critical to the concept of operations. FFIR should be specified in paragraph 5 of the OPORD.

The importance of alarms is inherent in its name: ALARM! They indicate an important exception to the commander's image of the

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***Commanders need a methodology for information management. It should be a balance of both high technology and people processes. It should be able to identify key information and also be flexible enough to effectively handle changing situations. Just such a methodology exists today in the Commander's Critical Information Requirements (CCIR).***

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battlefield. Alarms should not be delayed for any reason. Alarms should skip echelons in their transmission. Bad news, which is unfortunately the predominate characteristic of alarms, cannot wait for "staffing."

As a technique, a division commander should allow any battalion headquarters, field grade officer or sergeant major to immediately and directly notify the division command group of any deviation in the alarms. A positive command climate allows skipping echelons while acknowledging that subordinates are simultaneously "working the issue." The inevitable repetition of the alarm from various sources should be a positive sign that the information management system is working. And each repetitive report is acknowledged in a positive manner by the command group.

The 52d Division should have helped avert disaster by a PIR on the enemy tank regiment. With division intelligence systems, the tank regiment could have been accurately tracked through the decision support template. The division commander could have unilaterally anticipated the contact of the enemy regiment

with the first brigade.

The 52d Division should have made the combat capability of the reserve its number one FFIR. The Division's command group would have been immediately informed if not repeatedly informed of the depleted combat power and also

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***The commander . . . checks two levels down to ensure compliance with the specified and implied taskings of his order, the nesting of concepts. [He] checks the "fire in the belly" of the individuals and units by personal contact, assessing their capability beyond the sterile, qualitative bean counting.***

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the decontamination effort of the reserve. Re-designation of the reserve force could have been made in a timely manner.

**Trees.** The commander uses the tree methodology to clearly insert the human dimension into a technology dominated information management system. The name tree is used to describe the robust, divergent and complex information exchange given face-to-face by the commander throughout the battlefield.

There is no format for tree information. Rehearsals and order backbriefs prescribed by troop leading procedures and the command and staff process are only fundamental starting points for trees. The commander follows his intuition from years of experience in the Profession of Arms to guide his continuous tree information exchange.

The commander gives information by using his position as the "bully pulpit" to repeatedly convey his vision and intent to all ranks and

units of his command. The commander receives information by verifying his assessment of units capability. He checks two levels down to ensure compliance with the specified and implied taskings of his order, the nesting of concepts. The commander checks the "fire in the belly" of the individuals and units by personal contact, assessing their capability beyond the sterile, qualitative bean counting.

The 52d Division commander should have had all the brigade and key battalion commanders personally conduct a detailed orders backbrief. By checking the subordinate commanders image of the battlefield, the division commander could have easily noticed the lack of a decision support template on the first brigade commander's map. He would have noticed the lack of alternate and supplemental positions (needed for an effective mobile defense) on the battalion commanders' maps.

It would have become evident that the fundamentals of the subordinates' plans did not nest with the division's intent. And while eating with the troops, he would have quickly grasped their lack of understanding of the overall plan and their subsequent fear of the enemy and the unknown. The cascading defeat of the individual soldiers, the battalions and the entire first brigade was a self-fulfilling prophecy.

Commanders and staffs have been and will continue to be overwhelmed by an ever-growing volume of information. Without the understanding, adoption and practice of an information management system, this information overload will also become a self-fulfilling prophecy for otherwise trained and ready units. The CCIR process can separate the wheat from the chaff for the decision makers in both peace and war. **MR**

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# Tactical Information What You See Is All You Get

Lieutenant Colonel Jack Burkett, US Army

**T**HIS is not another in a long line of articles describing and extolling the virtues of the Army Tactical Command and Control System (ATCCS) or a supporting system such as the maneuver control system (MCS), advanced field artillery tactical data system (AFATDS), combat support/combat service support (CSCSS), forward area air defense command, control and intelligence (FAADC<sup>2</sup>I) or all source analysis system (ASAS). The proponents of these systems all promote them, each as a cure-all for the ills in our command and control. Yet, each innovation is only as good as the quality and timeliness of information it gives to a decision maker. This article attempts to look beyond these technical devices and incorporates all present and proposed hardware into an information management concept. Accepting this concept will enable the commander and staff to see or sense the battlefield more quickly and clearly than the enemy.

The Army presently has no formal, easily understood information management system that supports the command and control (C<sup>2</sup>) process. It does have a wealth of technical programs and machines to support C<sup>2</sup>. Yet, we have no overall doctrine or structure to guide or channel the flow of information within or between command posts.

Determining the most effective techniques to manage information is the most critical and far-reaching problem in today's C<sup>2</sup> battlefield operating system (BOS). Its solution does not reside in larger command posts with more staffs or with more machines with increased speed and capability. The answer resides in training and

requiring our staffs to function within the constraints of an established, disciplined information management system that supports clearly

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***The volume of information has reduced the effectiveness of the unit's C<sup>2</sup> system. Proponents will develop and add a new piece of hardware or software as a solution to a specific problem. Often, these actions have the reverse effect since it provides even more information, faster.***

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articulated commander's critical information requirements (CCIR).

For years, the Army has been debating, analyzing and revising techniques for making decisions rapidly and getting inside the enemy's decision cycle. Normally, these efforts have resulted in a proliferation of proposals to develop a new decision-making model, to change the current one with the addition or deletion of a step or two, or to revise the old "tried and true" estimate process. Individual unit commanders have attempted to improve their C<sup>2</sup> process by changing their system around their unit's "unique capabilities or missions" or the commander's previous experience and comfort zone. Constant adjustments—adding a van here or adding more people there and rewriting the unit Standing Operating Procedures (SOPs)—are examples of unit efforts to deal with C<sup>2</sup> issues.

The result of these constant and recurring fixes is a lack of proven C<sup>2</sup> techniques or stand-

ards that can be trained and adjusted. Thus, each command post training exercise becomes an adventure in improving the unit's  $C^2$ . The net result is that few division- or corps-size units perform  $C^2$  tasks and functions the same way. This lack of consistency severely hampers large-unit interoperability and tactical flexibility. It fosters a constant state of change and confusion, making command post training largely ineffective because the learning curve rarely gets above a certain point.

Army units and staffs develop and feed into our tactical operations centers (TOCs) more information than can be processed or assimilated

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***The staff must sort and analyze the information before presenting it to the decision maker. This process takes valuable time, slowing the analysis and presentation process. It further allows more possibilities for critical information to be overlooked or missed in the frenzy of processing large amounts of information while performing other routine or time-sensitive staff functions.***

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within the time constraints and stress of combat. The volume of information has reduced the effectiveness of the unit's  $C^2$  system. Proponents will develop and add a new piece of hardware or software as a solution to a specific problem. Often, these actions have the reverse effect since it provides even more information, faster. Units generate tactical information in response to specific requests for data and standard reporting times, as established by the unit SOP. These fixed reporting times, coupled with normally lengthy reports, create volumes of information. This information surge is concentrated during narrow reporting time frames. The staff must sort and analyze the information before presenting it to the decision maker. This process takes valuable time, slowing the analysis and presentation process. It further allows more possibilities for critical information to be overlooked or missed

in the frenzy of processing large amounts of information while performing other routine or time-sensitive staff functions.

## **Information Management Fundamentals**

Dr. James P. Kahan and the RAND Corporation have conducted an excellent analysis of  $C^2$  information flow. This study identifies three typical modes of information exchange between commanders and staffs and between command posts. These modes, called *pipelines*, *alarms* and *trees*, are significant because of the difference in their demands on the horizontal and vertical elements of the  $C^2$  system.

The pipeline mode is established by the unit communications network and the SOP. It transmits information according to a set order and an established format. The pipeline mode normally is seen in unit routine reports, such as the commanders situation report, logistics and personnel status reports. These reports provide details of information on a regularly scheduled basis. Pipeline information contributes to the collection and analysis of information and is generally not time sensitive in terms of decision making.

The alarm mode alerts the command and staff to one or more exceptional events. Alarms are those time sensitive pieces of information that alert the commander that his plan is not going as envisioned and requires some corrective action or a priority action for the staff. Alarm reporting criteria are either set by the commander or by subordinates with an understanding of the commander's intent and mission objectives. Alarms are difficult to automate in an electronic information system because all possible contingencies cannot be identified in advance.

The tree mode is a means of searching for multiple pieces of information from sources internal and external to the unit. This mode facilitates the retrieval of data based upon specific demands by the commander or staff from previously supplied pipeline information. Computer automation is especially valuable in the rapid retrieval of information because of the complexity of today's command posts. The tree represents the

many sources of information that exist in the unit and becomes the prime resource for retrieval of information for analysis or a decision.

### The Solution

We can clearly see that the issues addressed in relation to our C<sup>2</sup> system are merely symptomatic of a larger, more debilitating problem that exacerbates the confusion and friction created by and expected of combat and the "fog of war." After observing several command post exercises, I find that the single overarching component leading to the effective command and control of a unit is apparently the way in which that unit develops, manages and presents information to the commander.

We can collaterally resolve most of the known C<sup>2</sup> problems by addressing and treating a single root cause of the problems and not the numerous symptoms. This can be solved by simply developing an information management concept that can effectively manage the proliferation of information available to a unit. The solution also requires the development and purchase of technology and hardware that supports an information function rather than creating a function or organization to support a piece of hardware. An established information management system would allow the commander to make decisions more quickly than his enemy, causing the enemy to react to him and his initiative, thus getting inside the enemy's decision cycle. As such, all information generated by automated and manual systems of a unit should be only to enable the commander to make timely decisions on critical issues within the confusion and stress of combat.

All information generated by the unit should reflect the CCIR. The information system must provide the right information to the commander or decision maker as quickly as possible. If a piece of information does not contribute to a current or anticipated decision, it is merely "nice to have"; then the effort to generate that piece of information takes valuable time away from the collection and analysis of information that is critical. The commander, not a staff officer, develops his CCIR.

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The staff collects and presents the CCIR to the organization in three different forms:

- Priority Intelligence Requirements (PIRs) to decide what we want to know about the enemy and the battlefield.
- Essential Elements of Friendly Information (EEFI) to allow the commander to determine how the enemy sees the friendly unit.
- Friendly Forces Information Requirements (FFIRs) to allow the commander to determine how the unit sees itself.

The chief of staff or executive officer is the information manager for the unit. He outlines and monitors the duties, functions and responsibilities of the staff in the generation and processing of information and the information flow that feeds the system. The unit links CCIR to the present or future tactical situation and previously identified decisions to be made during the operation. The information manager is responsible for the collection, analysis and presentation of the required CCIR on a timely and accurate basis.

### Some Techniques

**Report by Exception.** To reduce the amount of information arriving at the command post, reports are sent forward only by exception. This provides only critical information that requires a decision to be made or action to be taken in response. To further reduce the volume of data arriving at the command post, all information coming into a headquarters is first analyzed by the sender with only the results of that analysis sent forward. Unless specifically requested, a subordinate headquarters never sends unanalyzed (raw) data or duplicate information received from multiple sources to a command post. When units forward only raw data, the volume,

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***The command center serves as the central receptacle for all information affecting the unit's tactical operations. The command center also facilitates briefings and staff huddles by removing decision makers and senior staff from already overcrowded work areas such as the G3 operations van.***

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in effect, cripples the higher staff because of the effort required to sort out the CCIR and continue to plan future operations and coordinate, integrate and synchronize current operations.

**Charts and Maps.** Both charts and operations maps aid in the display of information within a command post. Charts usually come in two types, verbiage and pictorial. Verbiage charts, such as a task organization or mission chart, require words to convey their picture. Pictorial charts, called "gumball charts," reflect in a single glance or picture the current status of a unit or combat/combat support/combat service support system by use of color codes. A gumball chart can rapidly present a combat capability status of each unit or weapons system using an established criteria of colors. The color code technique allows the commander to quickly assess the status of critical elements or weapons systems. It allows the staff to focus its efforts to "fix" or "continue to fix" the critical problem(s) rather than less critical ones. If the commander requests further information, then it can be retrieved (pulled) from the submitting staff section or MSC using the tree mode.

Only that information which directly contributes to a critical decision by the commander should be tasked to be retrieved. This type of self-discipline by commanders will allow the staff time to continue its routine coordination, integration and synchronization functions in support of the current and future operations. It supports C<sup>2</sup> by minimizing constant interruptions or diversions to run down "nice to know" or "just in case" types of information.

To use the gumball chart technique, a color

code standard is established throughout all echelons of the command. A separate color code for different elements or functions is never established because it creates confusion when arriving at the higher headquarters for analysis and consolidation. The color code criteria currently established by the MCS is as follows:

Green—80% or greater combat capability remains.

Amber—60% to 79% combat capability remains.

Red—40% to 59% combat capability remains.

Black—Less than 40% combat capability remains.

Operations maps should contain only the minimum essential information that allows the commander to "see the battlefield" without unnecessary clutter. Staff section maps should follow the same rule but will be in more detail looking two levels down. The effort required to continuously update an operations map with excessively detailed information becomes time consuming and interferes dramatically with the coordination, integration and synchronization functions of the cell or element. Commanders and staffs have to discipline themselves to request only information critical for a decision and to refrain from seeking nonessential information.

**The Command Center.** Each command post at battalion level or above should designate or have authorized an area to serve as the command center. At the battalion and brigade echelons, the command center is normally the S3 (operations) vehicle or work area. The division and corps functional command post designs have allocated a specific shelter or area to serve the command center function. Figure 1 depicts the heavy division command center van and location within the command post.

The command center serves as the central receptacle for all information affecting the unit's tactical operations. The command center also facilitates briefings and staff huddles by removing decision makers and senior staff from already overcrowded work areas such as the G3 operations van. Briefings and staff huddles conducted in the command center by staff principals allow

the remainder of the staff to continue its routine work without interference or creating congestion in an already cramped work area.

The effectiveness of the command center is directly related to the type and quality of information presented. The information maintained in the command center should, at a minimum, answer the following questions:

- What is the enemy doing now?
- What are the enemy capabilities within the next 24 hours?
- Where is the enemy vulnerable?
- What are the enemy's key decisions and how do we want to influence them?
- What is the flank situation?
- What combat power do we have now? In the next 24 hours?
- What are our vulnerabilities now? In the next 24 hours?

Display charts and tactical maps are maintained within the command center. They should reflect an easily understood and continuous visual picture of the total battlefield situation, both current and future. Any changes to the command center map and status boards are the responsibility of the proponent staff element located in the command post. A designated "pit boss" updates the displays from data supplied by the staff elements as they receive their reports by exception. Staff elements provide changes for posting as quickly as possible to maintain the currency of the portrayal.

A conceptual representation of a command center information display array appears at figure 2. This array, placed in the command center, consists of one center section and two folding

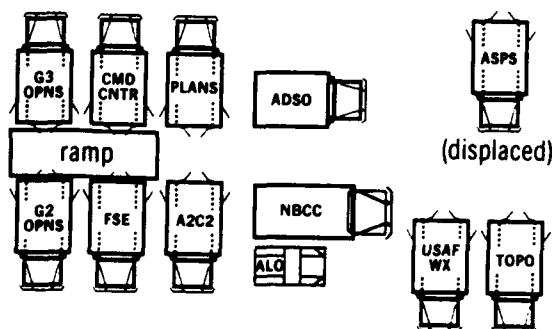


Figure 1. Heavy Division Command Center

wings. The command center should display a 1:100,000 scale map to monitor current operations. Common map drops will allow a staff section to temporarily overlay the command center map to ensure synchronization and unity of effort. A 1:250,000 scale map that reflects the division's area of interest is maintained to preserve a larger picture of the battlefield with higher and adjacent units. This map is also primarily maintained by the G2 and G3 operations cells. The left wing contains only those charts that lend themselves to verbiage, while the right wing contains only gumball charts.

Verbiage charts displayed within the command center should be kept to an absolute minimum. Routine command center information and the CCIR established by the commander guide the type and number of verbiage charts maintained in the command center. Command centers may differ from unit to unit depending on the commander's style of leadership and METT-T (mission, enemy, terrain, troops and time available); however, they all serve the same function in supporting the commander's ability to see the battlefield. Any effort to increase the number of charts displayed and maintained should be addressed with a critical eye on the value of the additional chart to command center functions. Verbiage charts normally required at the command center include:

- Mission
- Commander's Intent
- Callsigns/Frequencies
- Threat Kill Board
- US KIA and WIA Board

Gumball charts show the current and future

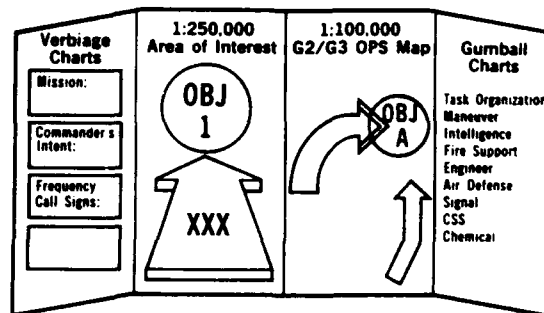


Figure 2. Command Center Information Display

Element	Current	Projected	Element	Current	Projected
1st Bde	○	○	3d Bde	○	○
AR Bn	○	○	AR Bn	○	○
AR Bn	○	○	AR Bn	○	○
Inf Bn	○	○	AR Bn	○	○
FA Bn (DS)	○	○	Avn Bde	○	○
Engr Bn (DS)	○	○	Atk Bn	○	○
ADA Btry (DS)	○	○	Atk Bn	○	○
1 FSB	○	○	DIVARTY	○	○
2d Bde	○	○	DISCOM	○	○
AR Bn	○	○	Div Troops	○	○
Inf Bn	○	○	CAV Sqdn	○	○
Inf Bn	○	○	Engr Bn	○	○
FA Bn (DS)	○	○	ADA Bn	○	○
Engr Bn (DS)	○	○	MI Bn	○	○
ADA Btry (DS)	○	○	Signal Bn	○	○
2 FSB	○	○	Chem Co	○	○
			MP Co	○	○

Figure 3. Task Organization and Unit Current and Projected Status Chart

commanders' evaluation of units or critical weapons systems that affect the unit's mission capability. Gumball charts that would represent a unit's combat capability are:

- Current task organization
- Maneuver Status
- Intelligence Status
- Fire Support Status
- Air Defense Status
- Mobility/Counter mobility/Survivability Status
- Communications Status
- Chemical Status
- CSS Status

Used properly and with some degree of discipline, these gumball charts can greatly reduce the need for verbiage charts. They quickly present large amounts of information for a higher-level command post. Figure 3 shows an example of a division task organization combined with a current and future combat capability assessment of major subordinate commands. Figure 4 depicts an example of one BOS assessment chart (critical maneuver system) with CCIR that

should be maintained at the command center. Charts located in the division command center reflect only one level down, to brigade and separate battalion. The supporting staff section maintains a "smart book" or computer data base and similar charts with information concerning elements two levels down that support the summaries presented in the command center.

No manual or automated information system can overcome a manager who does not consider time a limited asset and requires all information

Element	Tank	BFV	Atk Helo	Arty	CI III	CL V	Pers	Comments
1st Bde	○	○	○	○	○	○	○	
2d Bde	○	○	○	○	○	○	○	
3d Bde	○	○	○	○	○	○	○	
Avn Bde	○	○	○	○	○	○	○	
CAV Sqdn	○	○	○	○	○	○	○	
	○	○	○	○	○	○	○	
	○	○	○	○	○	○	○	
	○	○	○	○	○	○	○	
	○	○	○	○	○	○	○	

Figure 4. Critical Maneuver Systems Status Chart

be made available before making a decision. Only the warrior feels comfortable accepting the risks involved and will make decisions based on only the information available at that time. The commander, therefore, becomes the catalyst who promotes an effective C<sup>2</sup> system with the requirements for information he places on the unit. Given our current table of organization and equipment (TOE) constraints, with limited personnel and facilities, we must learn to "do less better" rather than "do more with less." Thus we can make maximum use of the staff's valuable time. Risk is expected in the profession of arms. The speed, type and quality of information the C<sup>2</sup> system places in front of the decision maker can effectively minimize risk and make the unit more responsive and agile. **MR**

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# European Security

## IN THE 21st CENTURY

An International Conference at *École Supérieure de Guerre*

Lieutenant Colonel James M. Dubik, US Army,  
Lieutenant Colonel James W. Townsend, US Army,  
Major Robert B. Adolph Jr., US Army, and  
Major Charles K. Pickar, US Army

*The dramatic changes of the last two years in Central and Eastern Europe and most recently in the Soviet Union have heightened the awareness among European nations that new and different security arrangements are needed. A recent conference hosted by the École Supérieure de Guerre in Paris provided a forum for interested parties to discuss the key issues. The authors were in attendance and report on this very constructive experience.*

ONE COULD build a plausible case that modern collective security arrangements in Europe began with the Age of Napoleon. Then, the monarchies of Prussia, Russia, Austria-Hungary and Great Britain collectively sought to defeat the aggressive, revolutionary ideas that Napoleon and his army represented. Twice in the first half of the following century, the tables turned. A united, strong and aggressive Germany, with its allies, had become "the enemy," with France, Great Britain, later the United States and others collectively fighting against them.

The end of World War II, to use the words of Michael Howard's *The Lessons of History*, "did indeed bring to a close the era of the German *Griff nach der Weltmacht* which spanned the first half of the twentieth century." However, one must not view 1945 merely as the defeat of Germany. Rather, one should see it as the end of an era of European nationalist conflict, the latest version of which, according to Howard, featured Germany as "the inheritor of an aggressive impulse which has possessed each great European state in turn as each has attempted to consolidate its power." From this perspective, perhaps little has changed in Europe. Since 1945, the security of Europe had centered around organizing and preparing to defend against another aggressive Eu-

ropean state—the Soviet Union.

Thus, the end of the Cold War and the decline of the Soviet threat present Europeans with a particularly important and delicate problem. The nations of Europe must find a security arrangement that:

- Will not return to a balance of power system.
- Will preclude the resurgence of 19th century nationalism and the "aggressive impulse" that fueled past wars.
- Will suffice to counter residual Soviet military power.
- Will promote growth and prosperity in Europe.

Is this kind of security system possible? A recent international conference held in Paris, a conference conceived, organized and run by the student-officers of the 103d class of the *École Supérieure de Guerre*, admirably met this issue head-on. The conference did not intend to answer its central question—"What security for Europe at the dawn of the 21st century?" Instead, the purpose was to identify and discuss as many different issues the question evokes, from as many different perspectives as possible. To accomplish its purpose, the *École de Guerre* gathered more than 1,500 academicians, politicians,

*The École de Guerre gathered more than 1,500 academicians, politicians, military officers, economists, religious leaders, members of the media and diplomats from over 17 nations and five continents. . . . The participants were very influential leaders, with several former heads of state, from Europe and around the world [who] conducted a candid and spirited discussion of the issues; theirs were truly "no holds barred" debates.*

military officers, economists, religious leaders, members of the media and diplomats from over 17 nations and five continents. That such a conference was held at all is, in itself, significant. However, the authors of this article—as representatives of the US Army Command and General Staff College and the School of Advanced Military Studies—found that the true significance of the conference resulted from two other factors. First, the participants were very influential leaders, with several former heads of state, from Europe and around the world. Second, these participants conducted a candid and spirited discussion of the issues; theirs were truly "no holds barred" debates.

The conference opened with a discussion among a six-member panel. Each member spoke for a few minutes about how he or she would complete the following sentence: "When I hear the word security. . ." Predictably, each panel member's understanding of security differed from the others. Following the prepared remarks, the panel debated each other's answers. From this discussion, several issues arose.

The concept of security is changing. Security had been understood primarily in the military sense of one sovereign state or a group of sovereign states protecting their territory from the aggressive intent of some other state or states. Now, the concept is expanding to include a number of nonmilitary issues. Thus, much more will be expected of a future collective security arrangement than had been in the past.

One of the first changes discussed concerns the environment within which a security arrangement must succeed. This environment is

shifting from one based upon sovereign nation-states to one that must consider a more global, mass culture. This broadened culture is resulting from international media and tourism; global music and fashion; greater economic, industrial and fiscal interdependence among nations; and a multinational awareness of injustice, suffering and ecological responsibilities. Further, the military, political, economic, social and religious domains within each nation and among nations are overlapping more and more.

As if the number of changes is not enough, the rapidity and pace of change is increasing. Change brings fear and uncertainty; rapid change, unpredictability and injustice. And, as one speaker correctly pointed out, fear, uncertainty, unpredictability and injustice are the roots of war.

Any security arrangement that evolves in Europe must be one that will be successful in this kind of environment. It must be one that nurtures trust and respect among peoples and nations, for trust and respect are the human roots of peace and security. Unfortunately, as another speaker pointed out, this requires a security arrangement to predict and prepare for the unpredictable. Perhaps, he continued, this is too much to ask.

The session ended with the representative from Romania challenging, in a most moving way, one of the foundational principles of collective security—the principle of nonintervention. The Romanian's claim was that the principles of nonintervention, national sovereignty and national self-determination are subordinate to the moral duty of all peoples and nations to promote

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and preserve freedom and human dignity. The peoples behind the former Iron Curtain, as well as some who remain within the Soviet Union still, were stifled by force, intimidation and totalitarianism. Furthermore, she continued, this degradation went on behind the protection of the principle of nonintervention. The legitimacy of this principle, she claimed, stops when humanity is concerned.

The stridency and moral purity of her remarks touched most conference participants. Her remarks brought to light the complexity, passion and immediacy of the issues that the conference organizers had bravely chosen to investigate and discuss in open forum. The remarks of the panel members set the stage for the rest of the conference. At the close of this initial panel discussion, one was aware of the obstacles and hazards that face European security in the 21st century, as well as the historic opportunities.

The opening session was followed by a speech by the French secretary of defense. He acknowledged that the future of European nations contained a significant amount of fear, uncertainty and unpredictability. However, he forcefully declared that this was exactly the situation a previous generation of European leaders faced at the end of World War II. Together, he reminded the conference participants, these leaders met the 1945 challenge. Therefore, he concluded, we have reason to hope for Europe's future.

With this mandate, the conference participants dispersed to one of six committees for discussions on more restrictive topics. Each of these sessions consisted of about 250 people in the audience, with four to nine panel members who

presented remarks, debated among themselves and responded to questions from the audience.

The discussions of committee issues reflected the heart of the conference organizers' attempt to create a forum for open debate of the issues from as many perspectives as reasonable. Thus, the committees' discussions resulted in findings, opinions and more questions—but not in any answers. While some participants may have been disappointed in not taking home answers, no one was disappointed in the discussion. Each committee's time was spent in talking through very complex and sensitive issues in a frank, open and lively way.

### **A New Europe?**

The first issue concerned trying to describe accurately the new strategic situation arising in Europe and around the world and new strategies required by this situation. In general, the discussion revolved around whether the changes in Eastern Europe represented improvement or explosion; whether a new political order in Europe is evolving, should evolve or could evolve; and whether the problems in Europe-Muslim relations could be worked out so as to enhance the feelings of security and cooperative spirit.

The salient points of this discussion include:

- The changes occurring in the Soviet Union are fundamental and substantial, not transitory and superficial.
- The strategic situation in Europe still includes risks, especially in the areas of Central and Eastern Europe, European economics, ethnic problems and political uncertainty. Thus, a void of information exists with no one being

able to predict the future.

- The southern "threat" is difficult and risky; Muslims are split between fundamentalism and secularism; and French "interventionism" has created deep divisions with no easy or immediate answers available.

- NATO, with a US presence, will remain but with appropriate (yet unspecified) changes reflecting "new realities." (The implication of this finding seems to be that with reduced US military presence in Europe, some believe should come a corresponding reduction in US influence.)

- Turkey has chosen the West and wants to participate in Western political and economic arrangements and to follow Western values.

This discussion, like that conducted by each committee, raised a number of interesting questions, but reached no consensus concerning answers. Some of the more provocative questions are these:

How can the nations of Europe create a defensive system without threatening one another?

Will a migration of peoples from Eastern Europe occur; and if it does, how would it be managed without economic chaos?

Will the Soviet Union integrate itself into the world economic order even though it has little to offer beyond cheap labor and raw materials?

How will the individual nations of Europe balance their desire for economic prosperity and security, which suggests that they must unite in some way, with each nation's own national agenda and sovereign interests?

How does the United States fit into the European future? (Note: The question is not "if" the US should fit, but how.)

How should Europe react to the threats that Islamic fundamentalism, mass migration from Africa and the Middle East to Europe, inter-Arab wars and the Arab-Israeli conflict pose to European security?

Is discussing the southern threats creating a potential for a self-fulfilling prophecy?

Can Western materialism and democratic ways reconcile with Islamic spiritualism, at least sufficiently enough for peaceful coexistence?

## European Collective Security

The second major issue directly addressed what sort of collective security system Europe might consider. This issue was subdivided into a discussion of three topics: the crisis of Europe's equilibrium caused by the collapse of the Warsaw Treaty Organization; the possible effects of the collapse on the current Western alliance system; and the desirability and feasibility of building a European military organization with new concepts and structures.

This discussion yielded spirited, sometimes emotional, debate. Some of the more interesting comments from that debate are these:

- A change in security arrangement in Europe is required and that it will take place is beyond doubt; what that change will be is the subject of much debate.

- NATO has three general possibilities: radical reform (a European pillar and transatlantic link within NATO); transformation (a "European only" NATO); or elimination and replacement by some other yet-to-be-identified arrangement, alliance or organization.

- New realities require changes in military doctrine and strategy—concerning both strategic and conventional forces—and entail a "funeral" for old principles.

- Multinational forces are possible and, over time and with proper care, may be the direction of the future.

- Nuclear policies should remain, for they are the required background for peace, stability and security.

- The political future of Europe must balance common action with individual sovereignty; this requirement will be tough to meet and will take time, realism and practice to work out.

- The heart of the matter concerning Europe's future is not in the changes that are taking place, but in the proper reaction to these changes.

Questions, again raised and discussed but not answered, include the following:

How can the different European forums for collective action—the Western European Union (WEU), NATO, Conference on Securi-

*How does a nation control proliferation of advanced weapons technology without restricting legitimate technological transfers needed for economic development and competitiveness?*

*How can nations that appear to speak with two voices—one speaking of stemming weapon proliferation; the other, selling arms for hard currency or giving them away as part of its foreign aid program—be brought under control?*

ty and Cooperation in Europe (CSCE) and others—complement each other? With respect to collective action and national sovereignty, one must identify both what one wants and what one does not want—both are important.

How do we proceed in this time of Soviet transition when it is unclear in which direction the Soviets may finally decide to go?

How does Europe reorganize—politically, economically and militarily—in light of changes in Central and Eastern Europe, the Soviet Union and the reduction of US forces?

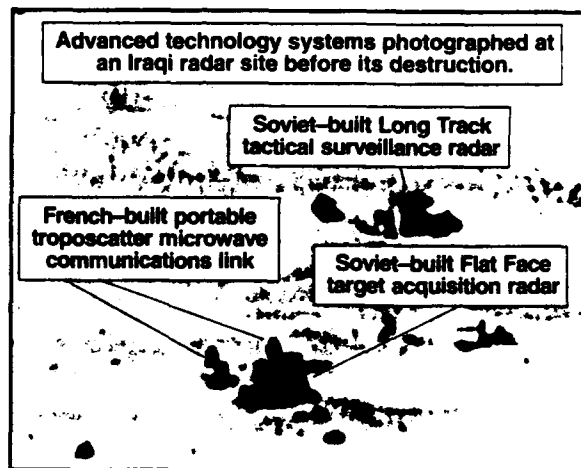
What is the proper role of a reunified Germany? And how should Europeans react to German reunification without arousing a “negative” German nationalism?

Does Europe need a “European nuclear policy” or should separate national policies remain?

What will happen when, or if, former Warsaw Pact nations are admitted to NATO?

## Technology

Simultaneously with each of the other discussions, a committee debated matters of technology and space and their impact upon European security. Perhaps the most hotly discussed part of this issue concerns disarmament



and proliferation of weapons outside of Europe. The need for “transparency,” the problems of civil technologies and weapons development, the accelerated pace at which technology is developing and the cost of acquiring new technology—all provoked a fast-paced discussion, a

summary of which included:

- The Gulf War offered much information concerning the importance of technology in the security field.
- Nuclear weapons technology is no longer difficult or “advanced technology”; thus, risk of proliferation is greater than in the past.
- Advanced technology provides a nation another means to attain its political ends.
- Control of some technology transfer is both impossible and undesirable; nations cannot conduct fast-paced business, industrial, financial and political affairs necessary to compete in the world market without advanced technology; to stop all advanced technology transfer is to commit national suicide.

• The cost of advanced technology is high and continuing to rise; this, in turn, will give rise to a new category of “haves” and “have nots.”

Two main questions arose in the discussion of technology: How does a nation control prolifer-

***"The Conventional Forces Europe Agreement was a dramatic breakthrough; we must continue the momentum. We must continue to help democracies develop within Central and Eastern Europe within the interests of the United States, the Soviet Union and European nations. US and European security is interlocked. With respect to security, we ought to think in terms of cooperation, not confrontation."*** Brent Scowcroft

ation of advanced weapons technology without restricting legitimate technological transfers needed for economic development and competitiveness? How can nations that appear to speak with two voices—one speaking of stemming weapon proliferation; the other, selling arms for hard currency or giving them away as part of its foreign aid program—be brought under control?

### **Economy versus Security**

Analyzing the changing relationship between economy and security was the fourth major issue discussed in the conference. Participants tried to come to grips with how to balance the necessity of domestic programs with military budgets and concerns about the environment. The discussion of this issue was not limited to the national, or even European, level. Rather, participants recognized the global aspects of the arms industry, economic competition and well-being, and environmental issues. In sum, the discussion resulted in these findings:

- The cost of security is rising exponentially.
- The pursuit of advanced technology is essential for a nation's economic future.
- Three possible approaches may help analysts: integration of economic information, data and analysis into intelligence data bases to reduce uncertainty and enhance predictability; use of insurance company models as the basis for determining acceptable risk; and use of equilibrium solutions instead of worst case analysis.
- The search for more efficiency in development and production of military equipment may result in arms manufacturers becoming more specialized; this will affect a nation's ability

to produce, by itself, all the arms it needs.

- There is much disagreement within and among nations concerning solutions to budgetary dilemmas.

- National budgets will continue to be the means by which governments identify their important programs and then put them into priority order.

- NATO will likely continue as the preeminent example of collective security as long as all member nations perceive an economic benefit from their participation.

In keeping with the conference goal, this debate produced more questions than answers. Some of the more thought-provoking are these:

Is the Gulf War useful for tactical and technological analysis, or is it an aberration that should not be taken as a model for future conflicts?

Should nations stretch their budgets and military organizations to prepare for such a conflict in the future?

Is it possible for the Soviets to develop a competitive economy and a more efficient budgetary process given their lack of free-market experience and their history of command economy?

Is a "peace dividend" a myth or reality? And, even if there is such a dividend, how far will it go toward helping to solve a nation's economic problems?

Do typical rules of supply and demand apply to arms industries and arms sales?

How will research and development continue in light of the multitude of possible threats?

What is the proper response to nations that speak of arms control then use arms sales as a way to develop international influence?

*Our military forces are no longer a threat to NATO . . . to justify NATO military forces on the basis of internal strife in the Soviet Union is ludicrous. As a marshal of the Soviet Union, "I can assure you that there will be no coup in our country and this also applies to the hierarchy of the Soviet military. The changes that our country is undergoing would not be possible without the support of the military; we are committed to continued support." Sergey Akhromeyev*

### Human Factor

The students of the *École Supérieure de Guerre* did not forget the "human factor" of security. Discussions on recruiting, training, organizing, motivating and leading the armed forces of the future provided the conference attendees the opportunity to debate this very complex and important issue. The discussion tried to identify the nature of tomorrow's European soldier and the best way to organize, train and lead that soldier—within expected fiscal constraints. To that end, the discussion centered on the following ideas:

- Current and future military units must be filled by men and women who are active followers, not just those who passively follow orders; therefore, they must be given meaningful work.
- Many believe conscription is no longer a viable method for filling European armies; however, some ambiguity existed concerning when and how to replace it. Each nation will have to find its own solution.
- Leadership style and organization must account for cultural differences and the desires of individual nations.

Like each of the other discussions, this one identified important but unanswered questions. Unfortunately, because we were only four, we were unable to attend enough of this debate to record those questions.

### Media and Public Opinion

The sixth topic of discussion was one that, given the Gulf War, was a hotbed. This topic concerned the role of the media and public opinion in matters of security—whether those matters occurred in peace or war. This debate, like the

others, held the participants' attention by its velocity and substance. Conference participants heard comments, then asked questions about what the media should and should not report during a crisis, whether there is a European consensus concerning collective security and whether Europeans would identify with an "entity" beyond their own nation. A summary of this spirited and hotly debated issue includes these observations:

- The trend in Europe is shifting from nationalism to collective security.
- Defense policy cannot be based solely on polls, for they are contradictory, highly subjective and multifaceted; yet one cannot ignore them either.
- In times of crisis, there is a tension between the view that journalists must have all the information, for it is the public's right to know, and the need to limit what information is made public, in order to protect soldiers.
- Information management in times of crisis is important in that it can fan or douse the "fire" of a crisis.
- More education is required of media reporters concerning defense matters so that they can produce more accurate reports and analyses; more is also required of military officers so that they can understand media's role and importance.
- No consensus currently exists as to whether a "European identity" has evolved sufficiently enough so that patriotism can shift from nation-focused to European-focused.
- Common values, as important as they are, are insufficient to produce "identity"; also re-

*Europeans must act in a more united way before US leadership can recede. So many changes in so many areas as fast as they have taken place result in ambiguity. It will take time for individual nations and collective institutions to cope with this change and develop correct responses. Fast, radical change results in disorder and instability—this is the near-term risk facing both European nations and the United States.*

quired are shared risks and dangers and common threats to bind people together.

- European public opinion can be divided into two segments: a transitory segment that arises within groups and is relative to a specific event and a permanent segment that is culturally linked.

- The media cannot approach war in the same way that they approach other events.

While the questions raised in this discussion are similar to those one might expect, they are no less provocative or interesting. Some of the more important are these:

How will the media profession balance the fact that information in a crisis can legitimately be considered a weapon with the journalistic "ethic" that requires "complete disclosure"?

Is there a role for manipulation of information in democratic nations, and if so, what is it? The purpose of a journalist is to report what he hears so that the public can make up its own mind—this requirement exists even in war; yet, in war is information really "neutral"?

How will journalists balance this purpose with the fact that, in some cases, information is as deadly as bombs?

Has Europe evolved to a state that it is a moral entity worth dying for?

Until it has, will national patriotism remain dominant?

How far will any one European nation go in divesting its national sovereignty to a transnational European unity?

What are the boundaries of Europe? Are Russia and Turkey European?

How will the Central European nations be

"reunited" into the European community?

The conference also included a very important teleconference and round-table discussion of the central theme: "What security for Europe at the dawn of the 21st century?" This was one of the highlights of the conference, for participating on the live panel were: Bronislaw Gembik, chairman of the Foreign Affairs Committee of the Polish Diet; Helmut Schmidt, former chancellor of West Germany; Hubert Vedrine, special adviser to the president of France for strategic affairs, Manfred Wörner, secretary-general of NATO; and Vadim Zagladin, personal adviser to the president of the Soviet Union. Two more participants joined the round table via tele-screen: Marshal Sergey Akhromeyev, military adviser to the president of the Soviet Union until his recent suicide following the unsuccessful coup d'état in the Soviet Union in August 1991, from Moscow, and Brent Scowcroft, national security adviser to the president of the United States, from Washington, D.C. At the completion of the round table, Pope John Paul II delivered a message, also via telescreen. Below is a summary of each participant's remarks.

Scowcroft: We must reconcile the need for Europeans to develop their own security system within the legitimate interests that the United States has in Europe's security. The principles of Helsinki and of arms control agreements must continue to guide our action. The Conventional Forces Europe Agreement was a dramatic breakthrough; we must continue the momentum. We must continue to help democracies develop within Central and Eastern Europe within the interests of the United States, the Soviet Union

*The excitement in Europe is almost indescribable. It is . . . motivated by the possibilities that exist in a time of historic change; it is an excitement that acknowledges the dangers that accompany times of uncertainty. The desire for some kind of European union is apparent. The challenges confronting European leaders as they attempt to balance national and European considerations is also apparent. Time seems to be the necessary ingredient.*

and European nations. US and European security is interlocked. With respect to security, we ought to think in terms of cooperation, not confrontation.

Wörner: We are in a period of uncertainty, ambiguity and danger. NATO is seeking ways to encourage change to democracy, freedom and self-determination, and to reduce instability, uncertainty and misunderstanding. Only by doing so will Europe have a solid base for the future. NATO must maintain the US link to Europe while:

- Transforming its strategy and military structure.
- Including Eastern and Central Europe and the Soviet Union—perhaps by way of the European Economic Community (EEC), WEU or CSCE.
- Strengthening the European pillar of NATO.

Zagladin: We should talk of security, not defense. The conceptual dimension of pan-Europeanism includes the United States, Canada and the Soviet Union. The current security instruments are:

- Conventional Forces Europe Agreement, now and in the future.
- NATO, even though its organization is changing, it is searching for a purpose.
- Some yet-to-be-defined European security organization. This future security organization is for Europe to determine, not the Soviet Union. Security cannot be limited to military security; we must expand our understanding to include social, economic, political and human security. There is no danger of war in Europe;

the dangers now are individual nations' domestic problems that should be left to them to solve. In the future, we should avoid destabilizing trends and do our best to build stabilizing ones.

Vedrine: Enormous changes in East-West relations and within Europe have been dealt with responsibly by all the leaders involved. In other times, such changes might have led to war. Everyone's aims are peace and security. We must retain this momentum by reducing both conventional and nuclear weapons. We must make the multiplicity of European organizations—EEC, NATO, CSCE and WEU—more compatible. The southern countries must participate in developing the future; the UN Security Council is the key and must be active in this regard. To gain true security, military forces are necessary, but not sufficient. Political, economic and social forces are also required and may be primary.

Gemerik: The current state of affairs in Europe and around the world is extraordinary. The "spirit" of democracy has escaped into Central Europe. The result is a more complex, more dangerous world. Security is linked to democratization of the world and international institutions. We should begin by transforming current security structures.

Schmidt: The next century will find a European union with a transatlantic tie, with or without NATO; and better relations with the Soviet Union; a better balance of military power; and reduced "fear" of German unification. It is necessary to expand the EEC to include new members. While we enjoy a better relationship with the Soviet Union now and look forward to this continuing, we cannot forget that the future of

the Soviet Union is not yet known. Therefore, a return to an adversarial relationship is possible, and NATO forces are still required. Economic and financial help to former Warsaw Pact nations is much more vital than military readiness in ensuring peace and security.

Akhromeyev: NATO and the UN are important for crisis management in the region and for global security. We must develop regional mechanisms to resolve crises before they become war. Our military forces are no longer a threat to NATO; therefore, to justify NATO military forces on the basis of internal strife in the Soviet Union is ludicrous. As a marshal of the Soviet Union, "I can assure you that there will be no coup in our country and this also applies to the hierarchy of the Soviet military. The changes that our country is undergoing would not be possible without the support of the military; we are committed to continued support."

Pope John Paul II: Peace among nations will happen when nations stop the need for war and resolve problems by other means. Security is based upon respect for human rights, freedom and fundamental human dignity. Solidarity, collective action, community—these are the foundations of security. To achieve peace requires a respect for law, a respect of individuals and an acknowledgment of the moral responsibility to develop and nurture these values in our institutions.

A very lively discussion followed these remarks. Some of the highlights of that discussion include these observations:

- The military reactions to the changes in Europe are the easiest to accomplish; the social, political, economic ones—these are much more difficult.

- The instability of Central Europe is the result of Soviet "care" of the past 40 years. The Soviet army still remains in Central Europe. However, return of Soviet soldiers to their homeland too quickly will be destabilizing in that there is not enough room for those who have already returned. The Soviet Union's transition to a market economy and new political institutions is hard enough; it would be even

harder to do in the face of a massive return by soldiers without adequate housing and sufficient job opportunities.

- A common European dollar is a symbol more than anything else, a symbol that the nations of Europe can work out differences and act in a unified way.

- Europeans must act in a more united way before US leadership can recede.

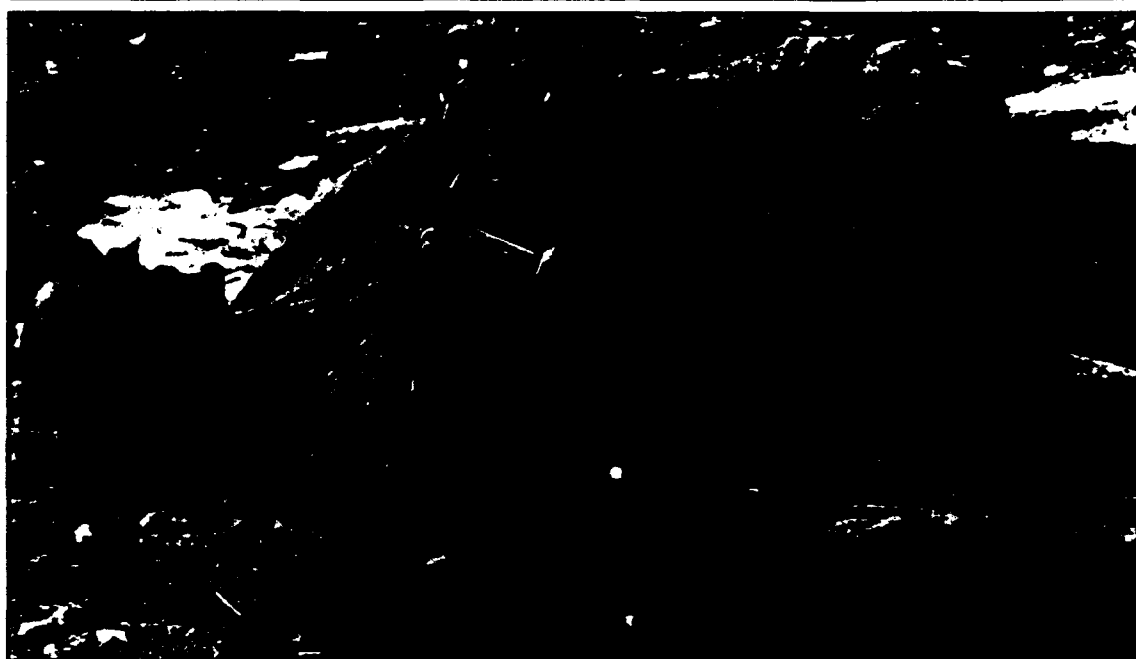
- So many changes in so many areas as fast as they have taken place result in ambiguity. It will take time for individual nations and collective institutions to cope with this change and develop correct responses. Fast, radical change results in disorder and instability—this is the near-term risk facing both European nations and the United States. Working together, we can "get through" this historic period.

The conference closed with a moving speech by President François Mitterrand of France. He praised the conference organizers for creating the forum to discuss such important topics. He then acknowledged that, confidence and trust being the foundations of security, such conferences themselves enhanced the security of Europe. Trust is the important key; as trust decreases, the potential for using military power increases—and vice versa.

The involvement of the United States in the past is the main reason we have had a peaceful Europe; US involvement in Europe—albeit under different circumstances—remains, and will always remain, a requirement.

We cannot miss the opportunity to develop structures necessary to resolve problems before they become reasons for war. Our task is to develop common approaches and common rules among the nations of Europe, the United States, and the rest of the nations of the world. These approaches and rules must be based upon respect for law and rights and make the United Nations essential for global conflict resolution. The conditions for a new international order exist, if we take advantage of them. The other nations of Europe, like France itself, will have to balance the responsibilities of national defense with those of collective defense.

*The greatest and most pressing question remains: What direction will the Soviet Union take? For this reason, developments within the Soviet Union will remain strategically decisive for Europe, the United States and the world.*



In Europe, an old order has disappeared. An order, yet to be determined, will emerge. The new order will be one of equality among all nations. The period of transition to this order of equality will be difficult and dangerous. To work through this period, we must reinforce what has worked and move toward new arrangements that work better, given the new strategic circumstances in which Europe finds itself.

One can see from the summary of the teleconference, a review of the issues debated and the questions surfacing from that debate, that the central theme of the conference—What security for Europe at the dawn of the 21st century?—is surrounded by complexity. But this complexity produced an excitement among the conference participants, an excitement created by the questions that were raised, the issues debated and positions challenged. Even formerly “taboo” subjects were topics of public, spirited discussion and

open, heated debate among the senior conference participants and invited attendees alike. This kind of frankness identified the conference as an important event in European history.

As the conference closed, we consolidated the multitude of impressions we had formed, opinions we had heard voiced, and debates we had witnessed into the following list:

- The excitement in Europe is almost indescribable. It is an excitement motivated by the possibilities that exist in a time of historic change; it is an excitement that acknowledges the dangers that accompany times of uncertainty.

- The desire for some kind of European union is apparent. The challenges confronting European leaders as they attempt to balance national and European considerations is also apparent. Time seems to be the necessary ingredient.

- Most European leaders acknowledge the requirement for a continuing transatlantic tie, whether that tie stays in the NATO forum or some other yet-to-develop organization.

- The United States has legitimate interests in the future of Europe. We fought two world wars there. Another war in Europe would also involve the United States. Most conference participants recognize this interest as legitimate; they want US presence in Europe. However, they also believe the strategic situation in Europe has changed; thus, the structure and form of US involvement should reflect that change.

- The future will hold economic competition, disagreements and tensions. However, we have an opportunity to build structures to resolve these problems short of war.

- The greatest and most pressing question remains: What direction will the Soviet Union take? For this reason, developments within the Soviet Union will remain strategically decisive for Europe, the United States and the world.

- Several conference speakers voiced their belief that one of the reasons the United States led a coalition against Iraq was to purge itself of the "Vietnam syndrome."

- One of the few themes common to all round-table discussions and committee debates centered on uncertainty and the need to take

advantage of the opportunities that change has presented.

- The conference was extremely useful as a forum for questions, discussion and debate, where civilian and military professionals presented and defended their views openly and vigorously. As such, it promoted trust and understanding.

- Europe is changing, moving ahead, acknowledging new strategic realities and trying to react properly to these realities. The United States, if it is to maintain its leadership role, must do likewise.

By calling for and executing this conference, the students of the *École de Guerre* seem to have realized that the post-Cold War era presents important challenges and opportunities to Europe. Certainly, developing a European collective security arrangement is a difficult and challenging task. It must be one that avoids a return to a balance of power system; precludes the resurgence of 19th century nationalism and the aggressive impulse that fueled past wars; suffices to counter residual Soviet military power; and promotes growth and prosperity in Europe. However, the 103d class of the *École de Guerre* demonstrated a willingness to do its part in meeting these challenges head-on and taking advantage of the opportunities. **MR**

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# HISTORY, SYNERGY and the CAVALRY SQUADRON

**Colonel Theodore T. Sendak, US Army,  
and Captain Kevin B. Smith, US Army**

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*The debate over the optimum mix and relationship for air and ground cavalry has been around for a number of years. The authors find that proposals to separate the air and ground elements may be ill-advised and urges for a reevaluation of the cavalry organization that looks to the needs of the Army in the future.*

**T**HE RHEIN: the voices today that support the separation of air and ground cavalry. The exact rationale behind their logic has not been made known, understandably, since it denies the body of existing analyses, historic precedent and common sense. This proposed separation draws the Army unacceptably closer to the idea that change for change's sake alone is a positive thing. Before we take the final step into this abyss, it would be well advised to take a brief look back: *ward in time and trace the history and theory of air-ground operations from the Blitzkrieg era.*

through air assault operations in Vietnam, and into the structure and doctrine of the Army today. Hopefully, in doing so, we can illuminate

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***There is a synergy inherent in all air-ground organizations. . . . When performing a reconnaissance, wheeled or tracked scout vehicles usually handle the detailed terrain recon, while aerial platforms provide the "broad brush" look so crucial on a high-tempo battlefield.***

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the advantages of the air-ground mix and the logic behind keeping such units in our future force structure.

There is a synergy inherent in all air-ground organizations. When resupplying, for example, a pool of trucks might transport the bulk of a unit's supply needs while a smaller number of cargo aircraft are used to deliver smaller, time—or distance—critical loads. When performing a reconnaissance (recon), wheeled or tracked scout vehicles usually handle the detailed terrain recon, while aerial platforms provide the "broad brush" look so crucial on a high-tempo battlefield. When in combat, commanders strive to synchronize all their assets and motions so that a synergistic effect is achieved. In so doing, the enemy is faced with a flood of near-simultaneous demands on his command and control apparatus, his combat assets and on the moral and physical strength of his soldiers. Without synergism, the enemy may deal with each separate component of the team in sequence, almost at leisure—and defeat each piece in detail. It is usually not possible (or even necessary) to synchronize every last piece of the team in order to gain the synergism needed to defeat the enemy—usually a combination of two or three different parts, working in close cooperation, is enough to provide the margin needed for victory.

If a "historical constant" can be distilled from the past 50 years of warfare, it is that of a ground element, an air element and artillery working to-

gether to provide an overpowering synergistic effect on the battlefield. Certainly, other "historical constants" include the actual capabilities and limitations of the air and ground elements of this team. Experience demonstrates that the air element can either be slower fixed wing (as in the case of the German Blitzkrieg), or rotary wing (as in the case of the 1st Cavalry Division in Vietnam). The air element has traditionally been hampered by night and poor weather, although current and future systems are approaching the point where that is no longer the case. Terrain does not hamper an aircraft's mobility, but the air element cannot occupy ground. The ground elements, on the other hand, can occupy terrain, fight at night and in poor weather. Unfortunately, ground systems are also restricted by terrain—slowed or even stopped by vegetation, excessive slope and water obstacles. Each component thus possesses its own unique strengths and weaknesses, realized over 50 years. Throughout recent history, the competent commander has mixed these complementary characteristics in order to see, shape and dominate the battlefield.

The Germans first demonstrated air-ground synergy in the turbulent years leading to World War II. German air-ground doctrine evolved from the early writings of British military theorist J. F. C. Fuller through the efforts of the *Reichswehr's* inspector of motorized transport General Oswald Lutz, and his chief of staff, a Major Heinz Guderian. Only three years after the publication of Fuller's tank warfare pamphlet of 1919, the Germans began to conduct "exercises which . . . investigated close cooperation (of motorized troops) with aircraft."<sup>1</sup> Aircraft were one of the few obvious alternatives to "dragging artillery units and ammunition resupply" along with fast-moving tank columns.<sup>2</sup> Still, the idea of tanks and airplanes working closely together was frowned upon by many of *Wehrmacht* chief General Hans von Seeckt's traditionalists.<sup>3</sup> However, as combat experience in Abyssinia and Spain demonstrated, "The fact remained that operations by the tank's sister weapon, bombing aircraft, were regarded . . . as the demonstration of a match-winner."<sup>4</sup>

Soldiers of an M-51 antiaircraft battery watch for German strafers during a dogfight between *Luftwaffe* and US Ninth Air Force fighters near Puffendorf, Germany, 25 December 1944.



***The continuous German air-ground relationship so desperately needed never fully materialized because of a combination of conflicting proponent interests, politics and strategic over-extension. . . . The American Army enjoyed an air-ground synergy that improved throughout the entire war. A tactical fighter group provided close air support to each American army committed to combat in Europe.***

Although regarded as a "match winner," the German air-ground team still had to overcome not only the friction of tradition, but also of doctrine, structure and politics.

Doctrinally, two broad techniques for the use of air power coexisted: one was the close coordination and cooperation of air and ground forces to achieve tactical and operational goals; the other technique was Italian Giulio Douhet's ideas of strategic, long-range bombing.<sup>5</sup> This doctrinal split, which continued through the war, was first noticed in the Polish campaign, when "only rarely were (the ground elements) very much assisted by bombing attacks because . . . the means of close liaison between ground and air forces was yet in its infancy. This was not surprising: the *Luftwaffe* was only luke warm to direct support of the Army."<sup>6</sup>

As the war continued, the decreasing number of air assets available to theatre commands caused a change in structure—with air power managed at successively higher levels. At least one *Wehrmacht* general noted that "the opportunities for cooperation with the *Luftwaffe* were rare. And that experience is actually quite typical for the German Army during WWII . . . we never had a liaison officer in our division . . . corps and army were the ones who coordinated the employment of air and ground . . . which didn't prevent us from dropping some bombs among our own troops."<sup>7</sup>

Politically, *Luftwaffe* chief Hermann Göring coveted thoughts of personally commanding an air-ground structure. His political pull with Adolf Hitler resulted in the formation of the *Luftwaffe* field divisions. Göring claimed that he

"could not hand over 'his' soldiers, reared in the spirit of National Socialism, to an army which still had chaplains and was led by officers steeped in the traditions of the Kaiser."<sup>8</sup>

Yet, despite these obstacles, the *Wehrmacht* was able to come close to perfecting its offensive air-ground doctrine during the 1940 campaign

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in France. These operations (at that point in history) became a text-book example of how to use the air-ground team in the offensive, and their synergy was a major contribution in enabling an outnumbered and outgunned force to prevail.

Within two years, however, the Germans were forced to develop a defensive operational doctrine to counter multiple Russian breakthroughs in depth. After a brief period of trial and error, the *Wehrmacht* issued "new regulations . . . couched in terms of the defensive based, initially, upon . . . reconnaissance troops . . . who could find and track each enemy thrust in cooperation with aircraft."<sup>9</sup> Defensive air-ground doctrine was evolving, but the means and the will to realize it were fast disappearing.

Whether on the offensive or defensive, Germany's air-ground synergy achieved superior results when used in sufficient strength (not piecemealed), and when directed, in combat, by the lower tactical levels. Its brighter points were the early blitzes, and later defensive battles on the plains of European Russia. Overall, however, German air-ground operations in World War II were not uniformly brilliant for the variety of reasons listed above. The continuous German

air-ground relationship so desperately needed never fully materialized because of a combination of conflicting proponent interests, politics and strategic over-extension.

In contrast, the American Army enjoyed an air-ground synergy that improved throughout the entire war. A tactical fighter group provided close air support to each American army committed to combat in Europe. Like its German counterpart, American air-ground coordination also had to suffer through its trial and error period. Eventually, with aircraft directed by forward air controllers riding in the lead tanks, the American Army found that the "contribution of available (close) air support to the American ground combat capability was overwhelming in its effect. In at least 44 percent of the American successes and . . . engagements, and perhaps up to 53 percent, airpower provided the margin which provided victory or prevented defeat."<sup>10</sup>

The next few years, unfortunately, would witness the air-ground team of the United States suffer a fate similar to the German experience, as the politics of cold-war brinksmanship combined the ideas of Douhet with the stark reality of the nuclear weapon. With a major portion of the defensive budget being spent on bombers, nuclear missiles and air defense, conventional forces had hit upon hard times. Army thinkers ". . . recognized that the newly independent U.S. Air Force was more concerned with jets and rockets than with troop transport and organic fire support."<sup>11</sup>

The Army was thus faced with three serious dilemmas: how to maneuver and fight conventional forces on the nuclear battlefield; how to make up for a reconnaissance shortfall; and how to make up for the very real decrease in the emphasis on close air support.

So another group of visionaries—Army operations chief General James M. Gavin, aviation developer Lieutenant General Gordon B. Rogers, and 18th Airborne Corps commander Lieutenant General Hamilton H. Howze—began the struggle to solve these dilemmas by bringing the ground elements even closer to the air through the use of the helicopter. The ground



An H-21 Shawnee and jeep-mounted 106mm recoilless rifle during early airlift evaluations, Hunter Liggett Military Reservation, California, circa 1958.

***[A] group of visionaries—Army operations chief General James M. Gavin, aviation developer Lieutenant General Gordon B. Rogers, and 18th Airborne Corps commander Lieutenant General Hamilton H. Howze—began the struggle to solve these dilemmas by bringing the ground elements even closer to the air through the use of the helicopter. The ground combat elements would not only be able to work closely with the air, but in many cases depend on the air element for battlefield mobility.***

combat elements would not only be able to work closely with the air, but in many cases depend on the air element for battlefield mobility. And there was more—the “development of troop-carrying helicopter doctrine coincided with early experiments in arming helicopters to provide suppressive fires during the critical approach phase of a combat assault.”<sup>12</sup> Certainly, these ideas would again ensure that the “close air-ground liaison” element was reestablished and remained intact.

The formation of the first air assault division shared many elements with the German air-ground experience of World War II. The obstacles of tradition, doctrine, structure and politics again impacted on the formation of an air-ground team. The traditional “armored and mechanized infantry types were licking their chops at the opportunity to put this upstart in its place.”<sup>13</sup> To add insult to injury, the 11th Air Assault Division’s “growth came out of the hide of the rest of the Army. The very best officers, in-

cluding rated aviators, noncommissioned officers . . . suddenly found their orders changed and themselves diverted to Fort Benning and the 11th Air Assault Division.”<sup>14</sup>

Doctrinally, the original scenario was a high-intensity war on the nuclear battlefield. However, the unit was destined to fight a low-intensity conflict in Southeast Asia—a type of war in which few had sufficient experience. In both cases, the Army was breaking new doctrinal ground. The first airmobile division was designed around helicopters and, although the helicopter had been used for a multitude of transport missions since Korea, no nation had tried to organize an entire division—with all its functional systems—around rotary-wing aircraft.

As if all of this was not a full plate, the Army was forced to struggle with the Air Force who “looked upon these developments with growing alarm.”<sup>15</sup> They even wanted to “smash the concept and put an end to the nonsense that soldiers ought to fly their own aircraft into combat.”<sup>16</sup>

During the Vietnam War, our airmobile strength grew from one airmobile division into several. The combined use of aircraft and ground elements was the principal difference between our Vietnam successes and the French failures at "quadrillage" and "rattissage". We did not win the political war, but we never lost a campaign due, in a major part, to the use of airmobile troops, airlift, aerial recon and aerial fire support.

One of the most effective air-ground units in this war was the cavalry squadron. It contained air cavalry troops with aeroscouts, aeroweapons and recon scouts (blues) riding in lift helicopters. The ground cavalry troops had armored vehicles, scout jeeps and indirect fire support. The "cav" squadron was a direct inheritor of the close air-ground tradition and, in fact, surpassed any comparable German organization in fighting power through air-ground synergy.

As a model, the cavalry squadron possessed the critical ingredients of success—close liaison, mutual dependence and esprit—necessary for an effective air-ground team. Usually, as liaison was established at lower and lower levels, the effectiveness of the organization increased. The cavalry squadron represented the closest air-ground liaison possible—far closer than anything the *Wehrmacht* was capable of. Cavalry tactics applied air and ground elements in such a way as to make them mutually dependent on each other's capabilities. The daring, agility and initiative required in cavalry missions brought out the best in men. They were good, they knew it and so did the enemy.

We once enjoyed a multitude of air-ground units. Changes in structure, doctrine and politics have since focused on a conventional war in Europe and, although the air assault division was designed to fight such a battle, the changing winds of military "fashion" have somehow left us, 25 years later, with only one air assault division. It is not mere chance that the most noteworthy survivor of the air-ground synergy we once enjoyed is the cavalry squadron—the voices from the top were always clear on the "doctrinal righteousness" of an air-ground cavalry mix. On this issue, five Army chiefs of staff have ruled that

"divisional air cavalry requires a mix of air and ground cavalry to perform reconnaissance and security missions for the division."<sup>17</sup>

The supporting theory behind a combined air-ground unit, such as the cavalry squadron, has been proposed by military thinkers as diverse as Sun Tzu, Fuller, former CENTAG commander General Frido von Senger und Etterlin and historian Martin van Creveld. As a body, these theorists span centuries of military thought, and their collective wisdom suggests that the air-ground unit idea transcends technology.

In a 1985 speech to a US Army War College colloquium, von Senger warned that "If our armies are incapable to . . . produce something which can be called a second tier [of mobility], . . . then our art of war is deteriorating. Something is wrong. We are still in an interim stage which must be overcome as soon as possible."<sup>18</sup> Two tiers of mobility have always shaped the battlefield, whether boot and hoof or boot and track. Today, as von Senger states, we have one tier of mobility—that of the track. The cavalry squadron is one of the few organizations in our army that still retains the ability to operate in two separate levels of mobility.

Fuller once said that "the weapon of superior reach or range should be looked upon as the fulcrum of combined tactics. Thus, should a group of fighters be armed . . . with aircraft, artillery and rifles . . . it is around the . . . airplane . . . that tactics should be shaped."<sup>19</sup> The air cavalry portion of the squadron fits nicely into not only Fuller's concept, but also the historical constants of the offensive-defense, or counterattack. The system with the higher mobility has always filled the role of Sun Tzu's 'Ch'i'—"the maneuvering, unorthodox element which attacks the enemy on his flanks and rear."<sup>20</sup> The firepower-heavy ground cavalry elements are equally suitable as the 'Cheng'—"the orthodox force, the holding or fixing unit, the obvious."<sup>21</sup>

Van Creveld has described the Vietnam-era command and control helicopter as a "directed telescope" (although a disruptive one).<sup>22</sup> The function of the "directed telescope" is to cut through the obstacles to information flow and



Soldiers exiting their UH-1 Huey at a "hot LZ" in Vietnam.

***The first airmobile division was designed around helicopters and, although the helicopter had been used for a multitude of transport missions since Korea, no nation had tried to organize an entire division—with all its functional systems—around rotary-wing aircraft . . . The combined use of aircraft and ground elements was the principal difference between our Vietnam successes and the French failures . . . We did not win the political war, but we never lost a campaign due, in a major part, to the use of airmobile troops, airlift, aerial recon and aerial fire support.***

allow a higher-level commander the opportunity to see the battlefield and keep track of his own forces in real-time. Van Creveld explains that successful commanders throughout history have all had some form of "directed telescope" or another. Since seeing the battlefield (and command and control enhancement) is part of the cavalry's mission, it would make good sense to keep the best "directed telescope" mechanism with the cav.

It is encouraging to not only have theory and history on the side of the air-ground cavalry, but recent combat training center experience as well. One cavalry squadron, upon return from the Combat Maneuver Training Center (CMTC), Hohenfels, Germany, reported that: "In summary, the 2x2 Cav (air-ground) works amazingly well. The added mobility and im-

proved information flow provided by the two air troops serves to effectively multiply the combat power of the two ground troops. An incredible degree of flexibility and precision is gained when ground movement is accompanied by aerial recon. Artillery fires on a moving enemy are much more accurate with an aeroscout shadowing that movement. The joint recon and planning by air and ground troop commanders is the key that brings it all together."<sup>23</sup>

If you have a passion for hard numbers, the same report describes a full-MILES (Multiple Integrated Laser Engagement System) battle in which "Two cavalry troops, one air and one ground, defended the eastern part of CMTC with nine tanks (M60A3), four Improved TOW Vehicles, five M113s (armored personnel carriers) . . . three AH-1s (attack helicopters) and

two OH-58s (scout helicopters). At the end of the fight, the (attacking) task force had lost 50 out of 82 combat systems and was combat ineffective—the two cav troops lost a total of ten combat systems.”<sup>24</sup>

By this point, we hopefully have established the principle that the theory, the doctrine and the experience of tanks working closely with

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***The Army is restrained from growth by personnel strength “caps” and limited production runs of modern combat vehicles. The heavy division cavalry cannot get tanks and a third ground troop back without someone else giving up an equal number of people—and Congress buying more vehicles.***

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aircraft is valid and enduring. It is clear that the air-ground cavalry squadron is one of the few organizations dependent on such synergy in order to fight effectively. It is very probable that such synergy would enable the squadron to defeat a much larger force, if required. Yet, despite all the history, all the theory and all the recent experience, the future of the air-ground cavalry squadron remains cloudy.

The structure changes forced by the Division 86 and Army of Excellence (AOE) studies were felt throughout the Army. But few units felt the sting harder than the heavy division’s cavalry squadron. The division cavalry “lost about 270 personnel in the Table of Organization and Equipment (TOE) change from ‘H.’” The AOE and other initiatives cut the squadron another 86 people, reassigning the Long Range Surveillance Detachment to the Military Intelligence battalion.”<sup>25</sup> In essence, the divisional cavalry served as a “bill payer” to flesh out the new divisional mix of armor battalions. The cavalry lost its tanks and the third ground troop and split the air cavalry into two smaller troops.

Few would argue that there are cavalry missions which will require the speed of the helicopter as well as the power of the main battle tank.

After all, tanks and aircraft, working in conjunction, have been regarded as a “match winner” from the start. But the Army is restrained from growth by personnel strength “caps” and limited production runs of modern combat vehicles. The heavy division cavalry cannot get tanks and a third ground troop back without someone else giving up an equal number of people—and Congress buying more vehicles. The solution, for some, is simply to get rid of the air cavalry portion of the TOE and use the resulting personnel “delta” to fund the cavalry’s new tankers and third ground troop. Considering the established effectiveness of the air-ground mix, it seems foolish to discard a proven organization solely on the basis of perceived economic and proponent issues.

Another solution claims that the divisional cavalry is “degraded” by its subordination to the aviation brigade of a division and suggests that the squadron commander must be rated by the assistant division commander or division commander “as opposed to being rated by the aviation brigade commander.”<sup>26</sup> The rationale behind the decision to include the air-ground cavalry squadron in the aviation brigade was sound in the beginning and it remains sound today. During the 1960s and 1970s Army Aviation continued to proliferate throughout our divisional structure. Each ground maneuver brigade had command and control aircraft; division artillery had observation aircraft; the cavalry squadron had air cavalry troops; and the intelligence specialists procured special electronic mission aircraft. As the numbers of aircraft increased, the aircraft themselves became more complex and maintenance requirements became more demanding. Utilization and employment grew less efficient and demands on aviation as a combat multiplier continued to increase.<sup>27</sup>

During the mid 1970s, it became apparent to field commanders that the hodgepodge of divisional aviation was becoming their most pressing problem. Within a relatively short period of time, several factors combined to solve the divisional aviation mess—the findings of the Department of the Army (DA) Inspector General; the US Army, Europe (USAREUR) Aviation



An OH-58D Kiowa Warrior with mast-mounted thermal imaging sensor, laser rangefinder/designator and high-resolution TV camera.

*It is not mere chance that the most noteworthy survivor of the air-ground synergy we once enjoyed is the cavalry squadron—the voices from the top were always clear on the “doctrinal righteousness” of an air-ground cavalry mix. On this issue, five Army chiefs of staff have ruled that “divisional air cavalry requires a mix of air and ground cavalry to perform reconnaissance and security missions for the division.”*

Reorganization Study; the Headquarters, DA Aviation Requirements for the Combat Structure of the Army (ARCSA III); and the ARMY 86 studies. The result of these studies produced an aviation brigade that would provide dedicated command, control, supervision and sustainment planning for the divisional aviation elements (including the cavalry) which would routinely operate under control of the division G2 or G3.<sup>28</sup>

The rationale behind the aviation brigade structure is sound and shows every sign of remaining sound into the foreseeable future. Besides, in wartime, a battalion-sized unit works for whomever the division commander wants them to work, regardless of who rates the squadron commander or provides support in peacetime.

Another solution implies that the air cavalry troops are simply not “robust” enough to fight continuously.<sup>29</sup> When the numbers are examined though, the heavy division J-series squadron has more “combat aircraft” (AH-1 and OH-58) than its H-series predecessor. The critical “robustness delta” in the J-series TOE is the

decreased number of aircraft maintainers, and this was a wound that was self-inflicted after the original J-series TOE was approved.<sup>30</sup> This problem has more to do with poor judgement in the adjustment of TOEs than with the concepts that created them in the first place.

A third solution calls for the return of the air troops to the aviation brigade commander, to do with them as he sees fit—until called for to augment the ground cavalry. The authors of this theory are “convinced that air resources meet the requirement.”<sup>31</sup> Yet, at the same time, these same authors vigorously assert that “Augmentation has the same complexities as cross-attaching on the move or at night, and impacts negatively on communications, logistics and mission integration . . . the state of training, on cohesion and teamwork.”<sup>32</sup> If we want air-ground teamwork and synergism to work, this is probably not the way to do it.

The marriage of air and ground cavalry affords more opportunities than liabilities. Admittedly, there are problems—current deficiencies in

force design, adverse weather capabilities, robustness and communications. But these are all flaws of execution, rather than of philosophy. The Army is facing a series of new challenges in the next decade. The threat of an overwhelming Warsaw Pact-type assault on Western Europe has been all but eliminated, while low-intensity conflicts and the possibility of counter drug operations are on the rise. Reductions in the force structure will put a premium on agile, compact fighting units that retain the ability to

operate across the spectrum—an ability the division cavalry already possesses. Sacrificing the air-ground cavalry on the altar of economic or proponentcy woes is just not rational thinking. Before we "lop off an arm to grow a leg," we need to do a sanity check. Sure, the structure of divisional cavalry needs some adjustment—but do we really want to discard the most capable small unit combined arms team in the Army to do it? No—it is very probable that we need more units just like it. **MR**

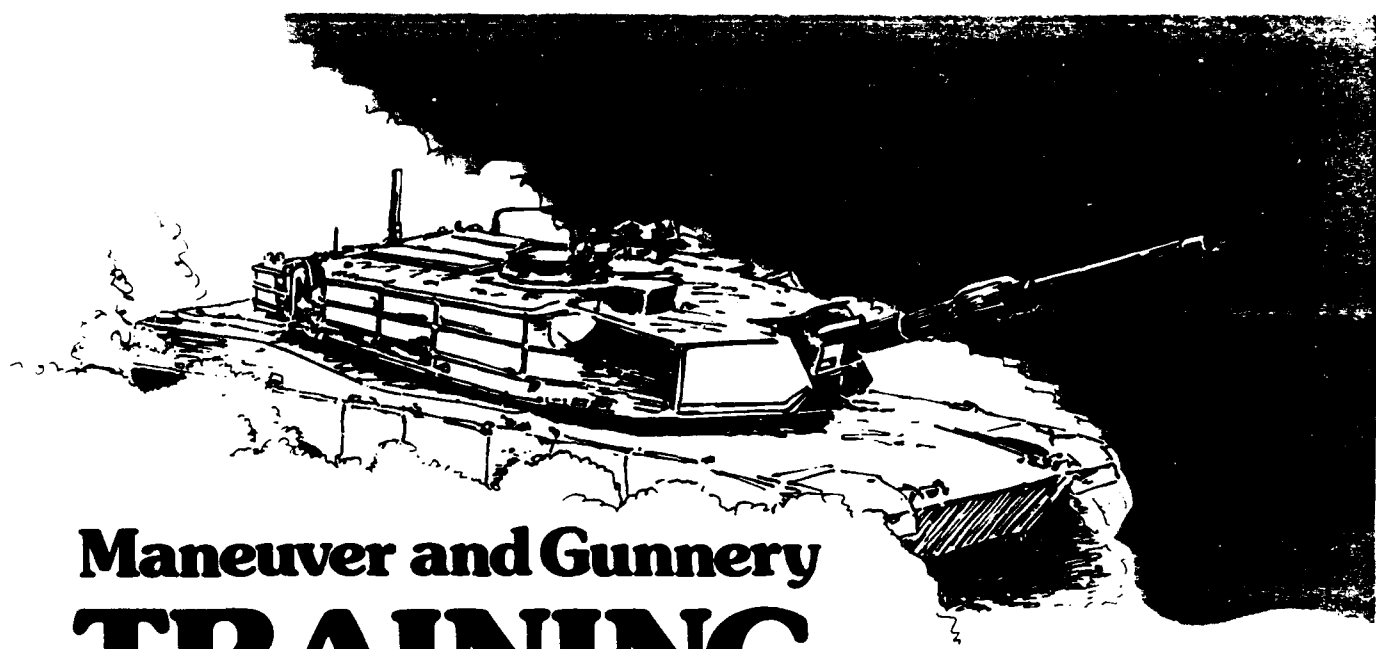
## NOTES

1. Kenneth Macksey, *Guderian: Creator of the Blitzkrieg* (New York: Stein and Day, 1976), 65.
2. CPT John M. House, *Toward Combined Arms Warfare: A Survey of 20th Century Tactics, Doctrine and Organization*, Combat Studies Institute, US Army Command and General Staff College, Fort Leavenworth, KS, 1984, 86.
3. General Hans von Secktfeld was the chief of the German *Reichswehr* from 1920 through 1928. He personally supervised the selection of the 100,000-man *Reichswehr* and continued to exert considerable influence over the army long after his retirement.
4. Macksey, 96.
5. Giulio Douhet had observed the prolonged effect of continuous artillery bombardment on civilians and industries during World War I. He reasoned that the long-range bomber could win any war by bringing a nation's population and industry to its knees.
6. Macksey, 109.
7. LTG Heinz Guedcke, Translation of taped conversation by Battelle Columbus Laboratories, Columbus, OH, November 1979, 5.
8. Erich von Manstein, *Lost Victories* (Novato, CA: Presidio Press, 1982), 269.
9. Macksey, 209.
10. COL T. N. Dupuy, *Numbers, Predictions and War* (New York: The Bobbs-Merrill Co., Inc., 1979), 78.
11. J. D. Coleman, *Pleiku: The Dawn of Helicopter Warfare in Vietnam* (New York: St. Martin's Press, 1988), 2.
12. *Ibid.*, 3.
13. *Ibid.*, 13.
14. *Ibid.*, 17.
15. *Ibid.*, 4.
16. *Ibid.*, 13.
17. Message, "Aviation Position on Division Cavalry, DTG 241330Z Feb 89.
18. US Army War College, *From the Dnepr to the Vistula: Soviet Offensive Operations—November 1943–August 1944*, transcript of the proceedings, 1985, 598.
19. J. F. C. Fuller, *Armament and History* (New York: Sagar, 1971), 21.
20. MAJ George S. Webb, *The Flashing Sword of Vengeance: Force-Oriented Counterattack from a Historical Perspective with Implications for the Air-Land Battle and Combat Aviation* (Advanced Military Studies Monograph, US

- Army Command and General Staff College, 1985), 3.
21. *Ibid.*, 3.
22. Martin van Creveld, *Command in War*, (Cambridge, MA: Harvard University Press, 1985), 255–57.
23. "Fighting the 2d Cavalry Squadron," An unpublished white paper from 1st Squadron, 1st Cavalry, September 1988, 3.
24. *Ibid.*, 1.
25. "Cavalry/Reconnaissance Net Assessment—Master Plan," Directorate of Combat Developments, Fort Knox, KY, 31 August 1988, 2–30.
26. *Ibid.*, 2–38.
27. "Position Paper on Division Cavalry in the Aviation Brigade—(draft)," US Army Aviation Center, Fort Rucker, AL, 2 September 1988, 1.
28. *Ibid.*, 1.
29. "Cavalry/Reconnaissance Net Assessment—Master Plan," 2–40.
30. Fort Knox has retained propensity of the Heavy-division cav for decades. When they saw the loss in manpower that Division 86 and Army of Excellence was going to force upon them, the personnel people went back to the computers and adjusted the TOE to reduce the numbers of aircraft maintainers and increase the numbers of various ground military occupational specialties (MOSs). This prompted a response from the Aviation Logistics side that read exactly like this: "Act system MOS 67Y & 67V have been constrained to a maint. capability of 37.5%. Act sub-system rep military occupational skills 68D, 68G, 68J, 68M constrained to maint. capability of 47%. . . . USAARMS has constrained the aircraft maintenance activity of this DLTOE to excessive amounts while staffing other maintenance MOSs at 100 percent or 100 percent plus (MOS 63N). The USAALS recommends that to meet AOE strength constraints, decrements be equally distributed throughout the DLTOE. This unit does not possess the authorized number of MARC (AR570–2) positions for unit maintenance." It is should, therefore, come as no surprise to the heavy cav proponent that the air cavalry troops are less robust after the number of required aircraft maintainers was decreased to less than 45% of the original authorized strength. The reference for this message is:  
AVLSMSG SL74T9 04/24/88 12:39:01 (-229)  
FROM: COMDT USAALS FT EUSTIS/ATSQ-CDO//  
TO: COMDT USAARMS FT KNOX KY/ATSB-CD-OPD//  
31. Message, "Division Cavalry," DTG 231400Z Mar 89.
32. "Cavalry/Reconnaissance Net Assessment—Master Plan," 2–37.

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# Maneuver and Gunnery TRAINING for TOMORROW

Lieutenant Colonel Thomas R. Rozman, US Army

*The evolution of the Army's Combined Arms Training Strategy (CATS) concept has been well documented in Military Review in a series of articles by the author. It is steadily being implemented and is beginning to shape not only how the Army trains but, equally as important, the Army's long-range plans for training resource acquisition and management. In this article, the CATS concept is applied to the area of developing and efficiently managing a critical training resource, the land required for maneuver and gunnery training of our heavy forces.*

**T**HE EMERGING post-Cold War environment is offering the Army a growing list of challenges. A focused orientation on a single geographic region that poses a uniform threat is being replaced by an array of possible options presently termed contingency operations (CONOPS). Many of these options are likely to be of a low-intensity conflict nature requiring substantial levels of light and special operations forces. However, other options require significant heavy force elements.

All of these types of ground forces and their critical combat support and combat service sup-

port elements will apparently have to be organized, equipped, manned and trained on smaller Active and Reserve establishments. As budget strings tighten, other resources needed to sustain even a smaller force, particularly training resources, may be disproportionately reduced so that in many cases, they will become less available even in a smaller Army. Some of those training resources at risk may be tried and true traditional resources such as fuel, lubricants and spare parts that dictate operating tempo (OPTEMPO) and real estate or terrain for ranges and maneuver areas. All of these are especially critical to heavy force training.

This "at risk" status may have nothing to do with the quality of the resource's contribution. Rather, a range of factors are influencing re-

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*The views expressed in this article are those of the author and do not purport to reflect the position of the Department of the Army, the Department of Defense or any other government office or agency.—Editor*

source reduction decisions, among which costs, capabilities of new equipment and environmental issues rank very high.

Some new training resource options are surfacing, a number possessing great promise for the future and our ability to train to standard amid

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***Just prior to Iraq's invasion of Kuwait last summer, there appeared to be a growing body of thought that questioned maintaining large, expensive heavy formations, especially after recent events in Europe and Panama. . . . A more balanced perspective that accommodates appropriate heavy force levels in the Active force structure [is needed].***

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changes we see on the horizon. However, our recent experiences in the Persian Gulf offer a clear illustration of why we need competent and readily available heavy force units. Just prior to Iraq's invasion of Kuwait last summer, there appeared to be a growing body of thought that questioned maintaining large, expensive heavy formations, especially after recent events in Europe and Panama. This view now appears to require a more balanced perspective that accommodates appropriate heavy force levels in the Active force structure.

Given this realization about heavy force requirements, we must be able to train that element of our force to standard despite the rising costs of modernization and training resources in general. This will become even more challenging as we move steadily into a period of decreasing funding levels. New training resources, such as simulators and simulations, may soften the impact of decrements in the traditional resources (terrain, OPTEMPO and ammunition). However, particularly for the heavy force, effective training strategies will still rely on a proper mix of the traditional resources and emerging training technology. As we press on with the business of preparing combat-ready forces in a CONOPS environment, we must seek out the best ways

to train within a constrained budget.

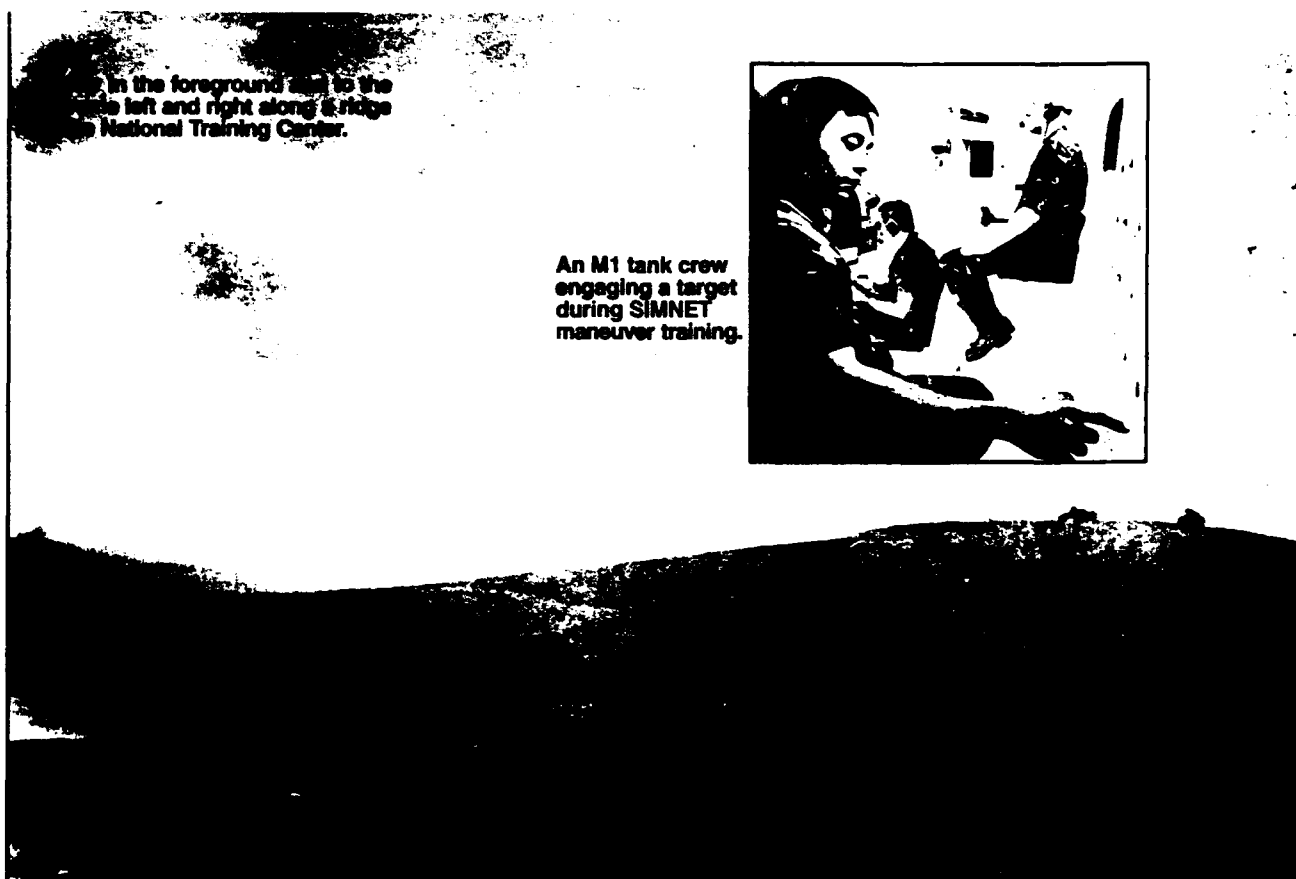
Certainly, the best starting point is a clear understanding of what the heavy force training strategy is. The Army's Combined Arms Training Strategy (CATS) provides this for our present strategies. It has, in matrix form, captured the current standard to which a battalion must train in the present Army Training and Evaluation Program and outlines the training events that should be accomplished to reach it (such as command post exercises [CPXs], field training exercises [FTXs], situational training exercises [STXs], and the like). CATS identifies the critical gates—standards soldiers should achieve in one training format or environment before proceeding to a more complex and expensive one—and the necessary training resources to execute the events (OPTEMPO, ammunition, ranges, maneuver areas and training aids, devices, simulators and simulation). It will update these annually, and it will also project strategies out to the end of the program objective memorandum period of the Planning, Programming, Budgeting and Execution System—or from today to about fiscal years 1997–1998.

Achievement by CATS of the last item will tell us not only what the planned training strategies for the force are but what we think we need in training resources to execute them. These are basic planning tools that are essential to successfully deal with a challenging changing future.

One very important part of this planning effort will consider the training areas or land requirements for implementing the CATS. This article proposes an approach to defining the "real estate" (ranges and maneuver areas) training resource requirement as we prepare to put pen to paper on projected training strategies. It offers what may be a useful approach toward justifying this essential training need against many of the constraining factors discussed.

## **Real Estate . . . A Critical Training Resource**

Not to be insulting, conventional wisdom says that for the heavy force to be competent on its lethal modern battlefield, maneuver and gun-



In the foreground and to the left and right along a ridge line is the National Training Center.

An M1 tank crew engaging a target during SIMNET maneuver training.

***For the heavy force to be competent on its lethal modern battlefield, maneuver and gunnery training "in the field" on real terrain is essential. . . . Recently introduced simulators and simulations offer some methods of exercising key battle skills without burning gas, shooting bullets and wearing out armored vehicles.***

nery training "in the field" on real terrain is essential. Certainly, recently introduced simulators and simulations (Conduct of Fire Trainer [COFT] and simulator and simulation systems such as simulation networking [SIMNET]) offer some methods of exercising key battle skills without burning gas, shooting bullets and wearing out armored vehicles. In the COFT, soldiers are put in a copy of their vehicle combat compartment (the tank turret) and can engage moving, shooting targets that are generated on digitized terrain by the simulator's computer software program. In SIMNET, combat vehicle crews move and maneuver collectively as units on digitized terrain against opposing forces. Many of the crew and individual skills can be practiced employing these reusable training resources that basically consume only electrical power. However, the achievement and sustainment of system competence, battle confidence and reinforcement will also require a portion of the

training strategy to exercise units on real terrain in their equipment. This means there will always be a training resource requirement for real estate.

The Army is confronted with the challenge of defining projected force training strategies that clearly identify those training events that must occur on terrain to train to standard. This definition will be a part of the larger training strategy definition that outlines other training events that will depend on other resources such as simulators and simulations, OPTEMPO, ammunition, and like items. The combined result of these efforts must be the availability at any point in time of the critical training resources that provide the Army's units the opportunity to train to standard under current doctrinal conditions.

In the heavy force case, this argument leads to a conclusion that training land will always be a critical resource required by any foreseeable heavy force base-line unit training strategy. This contention may be challenged for empirical jus-

tification, especially as technology in the simulation area progresses to greater levels of capability. The Army will probably have to better focus test, analysis and study efforts to assure that the best available data is presented to support decisions on CATS-generated training resource mixes.

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***The CATS process defines how the Army says it trains or plans to train the force and requires the disciplined identification of critical training resources and the best mix of these resources to execute the strategies.***

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This will be particularly true for determination of terrain requirements.

This process is especially challenging with technological advancements occurring at an unprecedented pace. The rising importance of and our increasing reliance on technology make it critical that we stay ahead of the "power curve" by projecting conceptual base-line strategies and required training resource mixes to support them well into the future. Then, by weighing alternative strategies against each other, we can determine the effectiveness of each in training the force to standard.

As with the staff planning process, the alternatives to be assessed should be feasible in terms of best information on warfighting concepts and doctrine, new equipment, budget guidance, environmental issues, and so on. In terms of the training land resources applied to possible projected base-line unit training alternatives, there are several options that range from business as usual to rather dramatic departures from traditional methods. Three examples serve to illustrate these options: all battalion-level FTXs occurring at home station on terrain; hybrids of FTXs (some on simulation and some on terrain), up to battalion level at home station; and only lower-level (company) FTXs on terrain at home station, with simulation to support up to battalion-level exercises and regional terrain sites for battalion-level field maneuver. The

capstone event in all three cases would be the fully resourced combat training center (CTC) event on real terrain.

Obviously, there can be many permutations on these possibilities, but as we consider the many factors that will influence future training resource decisions (such as a reduced budget, environmental constraints, changing political perceptions and new systems with greater capabilities), it appears more and more likely that we will pursue a variation similar to the third alternative.

## **Crawl . . . Walk . . . Run . . . A Concept**

A more effective way to view future training land requirements, based on a defined projected base-line training strategy, may be to focus on a few locations that can realistically be developed. The move to the CTCs was a portent of this idea, in that the unlimited, practically real-war environment simply could not be replicated in more than a few places. However, how do we make the leap from an armory or garrison's company-size training area to the CTC? Local maneuver and gunnery space is likely to become more constrained due to environmental concerns. Home station training land is already strained in many locations by increased weapon and vehicle capabilities and is becoming increasingly inadequate due to changing doctrine. CTC rotations may simply be too infrequent to support the strategies. These emerging realities make it imperative to plan now for resourcing heavy force training events at the desired frequencies and levels (platoon, company and battalion).

The answer may be in a CATS training land master plan concept that develops home station training land only to a certain supportable level; that is, the company level. Next, to provide land sufficient to meet the additional CATS base-line strategy events for battalion FTXs, regional maneuver areas that support several garrisons and Reserve Component units would be provided. The CTC rotations would still provide the capstone training event.

With a crawl, walk, run approach, home station training (crawl) would provide land capable



An M1A1 during  
gunnery practice  
at Fort Knox.

***Local maneuver and gunnery space is likely to become more constrained due to environmental concerns. Home station training land is already strained in many locations by increased weapon and vehicle capabilities and is becoming increasingly inadequate due to changing doctrine.***

of supporting rudimentary force-on-force training up to company level. Observer/controller (OC) and opposing forces (OPFOR) capabilities and Multiple Integrated Laser Engagement System (MILES)-type devices could be provided by local units as considered necessary.

At regional sites, land capable of supporting up to battalion-size maneuver (the "walk" level of training) would be available. MILES instrumentation and OC support (at some lesser level than at the CTCs) would be provided. OPFOR would be provided by a "red cycle, blue cycle" system, in which there would be no dedicated OPFOR, but units from the using region would provide OPFOR units on a rotating basis. Decisions on other issues such as provisions for instrumentation and equipment sets would have to be subject to trade-off analyses based upon such factors as siting of the regional center relative to distance from supported garrisons and availability of such resources as heavy equipment transporters.

The "run" phase would be the graduation exercise or capstone training event conducted at the CTC on a rotational schedule. It would consist of high-fidelity, force-on-force systems, instrumentation, dedicated OCs (down to platoon) and dedicated OPFOR. The CATS base-line training strategies would describe an event frequency that would require sufficient terrain to support multiple home station and regional site exercises during the year and a CTC rotation every year to 24 months.

For gunnery, the home station terrain requirement might support only a precision laser gunnery format on its local ranges. The regional site would allow full live-fire gunnery with service ammunition range capability and the required safety focus.

Such a concept approach would be a response to a clearly stated training strategy (what the Army actually will do to train) and its defined resource requirements (what the Army will actual-

ly need to train) provided by CATS. It assumes a focused management approach to each training resource area, specifically training land with a stated resource area application concept derived from CATS. The concept of resource

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***The "run" phase would be the graduation exercise or capstone training event conducted at the CTC on a rotational schedule. It would consist of high-fidelity, force-on-force systems, instrumentation, dedicated OCs (down to platoon) and dedicated OPFOR.***

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use, the management plan for the resource over time and the acquisition or development strategy for the resource would be captured in an unconstrained master plan. The execution aspects of management would be addressed in a fiscally constrained modernization plan.

In the training land area, this concept simplifies the application of training land within emerging constraints. It allows a specific orientation of this scarce asset so that it can be managed at the appropriate levels. For example, it accepts that few home stations, over time, will be able to keep up with expanding space requirements of modern weapon systems. It realizes that scarce dollars must be applied to maximum effect, therefore, tailoring capabilities at each level. It attempts to optimize unit access to training land as required by the CATS base-line proponent training strategies.

It would clearly respond to a stated strategy requirement by showing the contribution of training land toward producing units trained to standard. It would also define the relationship of the training land resource to other resources in the training strategies. By so doing, it justifies to the "keepers of the purse," the Congress, the need for training land and shows that it will be effectively managed.

Training land, already a scarce resource, promises to become more so if current modernization, environmental and political trends continue.

CATS is developing a systematic training development architecture that will more clearly focus the Army's approach to training developments. Specifically, it will describe the current force training strategy, both institutional and unit, and project the strategy by defining the Army's best ideas on how it will train at intervals in the future. Obviously, the further into the future we look, the more conceptual the strategy becomes. However, the CATS process defines how the Army says it trains or plans to train the force and requires the disciplined identification of critical training resources and the best mix of these resources to execute the strategies.

This last result of CATS is most beneficial in that it assures the Army access to the vital training land resource. CATS will, with increasing rigor as it matures, state the Army's current and future requirement for training land. Most important, this requirement will be solidly grounded on a clearly stated force training strategy, not multiple, widely disparate justifications across the Army that when exposed to congressional scrutiny, for instance, fail the test and place the Army's true requirements at risk.

Given the continued maturation of CATS, this article proposes a concept of training land application as a resource to the emerging CATS proponent strategies. Its "crawl, walk, run" design optimizes integration and synergy with other training resources such as training aids, devices, simulators and simulations, OPTEMPO, ammunition and a realistic assess-

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ment of future land use constraints.

Specifically, the concept tailors local, regional and CTC training land development objectives to the appropriate corresponding levels of training strategies. If trends are indicating that local areas may best be focused at company level, and the CTCs at battalion to brigade level, a resource gap for additional battalion-level events will become apparent. In the emerging CATS strategies, a regional maneuver facility

may then become the focus of training land management objectives.

Our goal must be to develop training land resources in a deliberate direction, specifically designed to support the CATS proponent training strategies to best effect. The Army can ill afford to do otherwise. Lack of this sort of precision in our planning will ultimately compromise our access to correct levels and configurations of training land. Depend upon it. **MR**

## MR WWII ALMANAC

### Taranto: Catalyst of the Pearl Harbor Attack

By Allan Beekman

"To neither side was the idea of a surprise attack on Pearl Harbor new. For years, Japanese naval writers had intrigued naval officers with accounts of such an attack."<sup>1</sup>

Nor did Japanese in responsible positions consider such accounts simply fanciful. About 1927 or 1928, Ryunosuke Kusaka, who was to participate in the actual attack as a rear admiral, committed to writing a plan for attacking Pearl Harbor from the air.

Such speculations were not restricted to Japanese language readers. In 1921, British naval correspondent Hector C. Bywater had his book, *Sea Power in The Pacific*, published in the United States. Four years later, he expanded the book into a novel titled *The Great Pacific War* in which he described a Japanese surprise attack on the US fleet in Pearl Harbor, with simultaneous assaults on Guam and the Philippines. In September 1925, *The New York Times'* Book Review section featured the book on page one.<sup>2</sup>

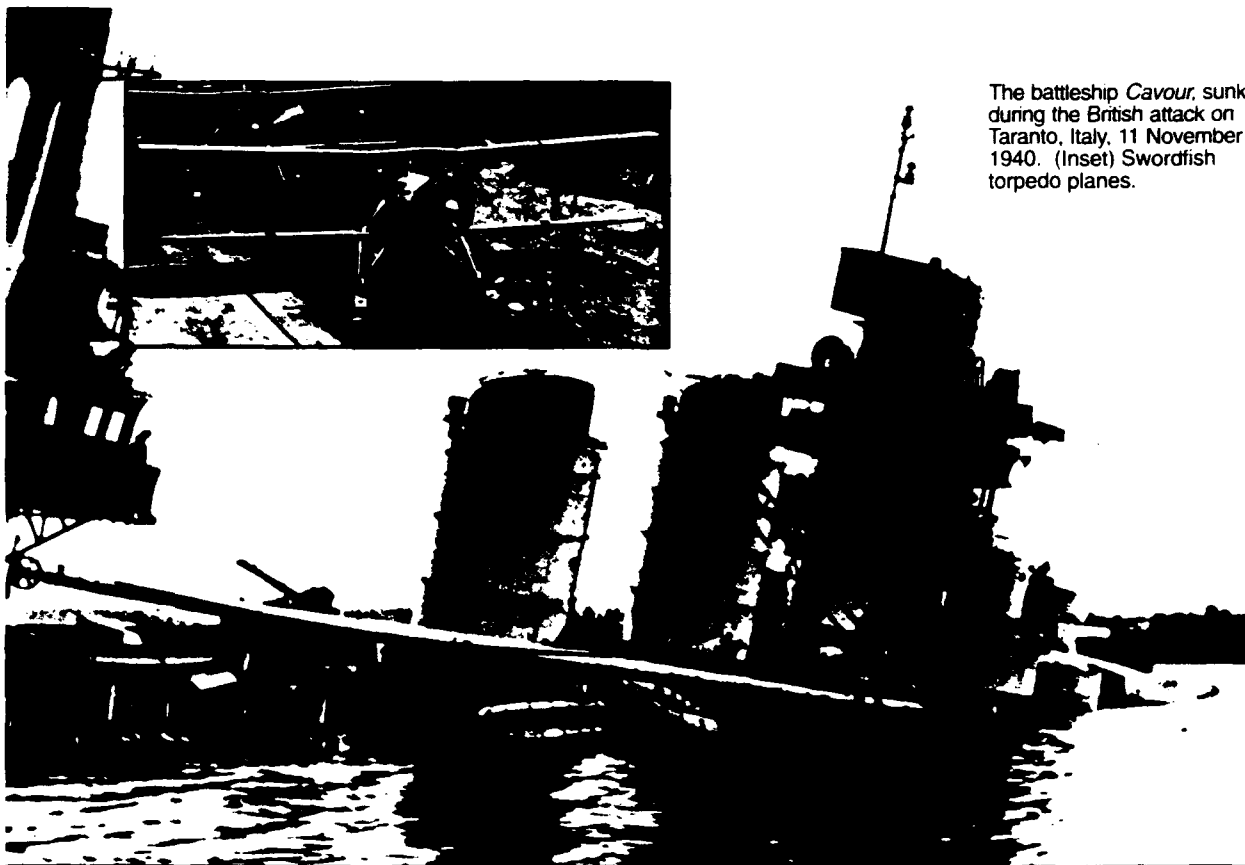
At a time when most thought of the battleship as the primary weapon in any future naval war, Colonel William "Billy" Mitchell declared that a powerful bomb dropped from the air could sink any ship, even a battleship. Early in 1921, the US Navy supplied former German warships as targets for bombing experiments. Mitchell and his colleagues sank them one by one, even sinking the most unsinkable of all ships, the German battleship *Ostfriesland*. When being tried for insubordination in 1925, he predicted a Japanese aerial attack on Pearl Harbor.

Both sides trained for such an attack. US Fleet Problem 14, undertaken in February 1933, projected war in the Pacific as being imminent but undeclared, with the enemy striking from carriers and making raids on Hawaii and the west coast United States. The plan envisaged every possibility of the coming Pearl Harbor attack.<sup>3</sup>

In January 1938, a War Department survey of Pearl Harbor defenses included the prediction that, in case of hostilities, Japan would strike without notice, and "there can be little doubt that the Hawaiian Islands will be the initial scene of action."<sup>4</sup> There was a sound basis for the assumption. In November 1936, the Japanese Naval War College had produced a "Study of Strategy and Tactics in Operations Against the United States," containing the declaration: "In case the enemy's main fleet is berthed at Pearl Harbor, the idea should be to open hostilities by surprise attacks from the air."<sup>5</sup>

In maneuvers in April 1940, Admiral Isoroku Yamamoto's fliers, with the increase in skill level they had acquired through unremitting training, so successfully attacked the twisting, dodging warships that they theoretically halved the fleet strength. Afterward, Yamamoto remarked to Vice Admiral Shigeru Fukudome, chief of staff, "It's beginning to look as if there's no way a surface fleet can elude aerial torpedoes . . . An even more crushing blow could be struck by [a] mass torpedo attack against an unsuspecting enemy force."<sup>6</sup>

On 17 June 1940, with Major General Charles D. Herron heading the Hawaiian Command, Chief of Staff of the Army General George C. Marshall



The battleship *Cavour*, sunk during the British attack on Taranto, Italy, 11 November 1940. (Inset) Swordfish torpedo planes.

ordered that Herron, without alarming the public, should put his command on full alert. He should bring out his artillery units, issue live ammunition, take adequate precautions against sabotage and prepare to meet the enemy by sea or air. Herron complied. After two days, Marshall ordered a complete relaxation except for precautions against sabotage and for arrangements permitting establishment of air patrols on short notice.<sup>8</sup>

Yet, in both sides' calculations, among other obstacles, there seemed one, in particular, that militated against a successful Pearl Harbor attack: the waters of Pearl Harbor were deemed too shallow for the successful launching of aerial torpedoes.<sup>9</sup> Then, on 11 November 1940, the British successfully attacked the Italian fleet at Taranto. For those with eyes to see, this changed the possibility of a Pearl Harbor attack to a probability.

Nineteen-forty had been a year of striking successes for the Axis powers. The Germans had driven the British from the European mainland; the Italians had conquered British Somaliland and invaded Egypt.<sup>10</sup>

By keeping most of their fleet intact at Taranto and avoiding an open engagement in the Mediterranean, the Italians posed a constant threat to British Malta and the vital British communication lines. Unable to provoke the Italian fleet to open combat, Admiral Andrew B. Cunningham, commander in chief of the British naval forces in the Mediterranean, decided to attack the Italian ships at their base—Taranto. He began by accumulating

information about Taranto and its defenses.<sup>11</sup>

The finest harbor in Italy, Taranto lies at the northern finger of the Gulf of Taranto, near the southern tip of the Italian peninsula. Ringing the harbor to the west was a breakwater, a dam and the islands of San Pietro and San Paolo. To the east is the town of Taranto, at that time having 140,000 residents.<sup>12</sup>

Within the harbor lay battleships, cruisers and destroyers shielded by barrage balloons, antiaircraft guns and antitorpedo nets. These antitorpedo nets had a flaw the British sought to exploit—they extended down the sides of the battleships only to the point of maximum draft.<sup>13</sup>

Cunningham had planes photograph Taranto and its defenses. In Cairo, experts subjected these photographs to detailed analysis, plotting the exact position of each Italian ship. Cunningham also began an intensive training program for the proposed attack.

Fortunes of war caused the attack's postponement and diminished available resources; nevertheless, at noon on 11 November 1940, the British fleet moved north eastward through the Ionian Sea some 250 miles from Taranto. At dusk, the carrier *Illustrious*, supported by four cruisers, parted from the main fleet and sped toward the attack takeoff position 180 miles from Taranto.

For days, the air crews had been studying photographs of the target and discussing the proposed attack; the plan was firmly fixed in their minds. Rear Admiral A. L. St. G. Lyster spoke a few words of



Oil slicks and smoke mark the three Italian battleships crippled by Swordfish torpedo planes at Taranto naval base.

encouragement to them. With a three-quarter moon rising out of the calm sea, 12 planes lifted from the deck, carrying flares, torpedoes and bombs, and headed for the target.

As the British planes approached Taranto, the Italians picked up the engines' sound; sirens shrieked, gun batteries opened fire. The planes assigned the task dropped flares to the east of the battleships, silhouetting the ships and illuminating the scene. Avoiding the barrage balloons, the torpedo planes dropped down through the glittering curtain of antiaircraft fire and deposited their charges. Dive bombers followed.

The British had secretly perfected a mechanism that exploded the torpedo magnetically as it passed under the attacked ship's keel. This new type of torpedo, being used for the first time, passed under the inadequate Italian antitorpedo nets.

In five minutes, torpedoes badly damaged the battleship *Littorio* and left the battleship *Cavour* sinking. Bomb failures robbed the bombers of great success, but they left the seaplane base burning.

Sixty miles to the south, a second wave of seven British planes approaching the target saw the barrage of fire directed at the first wave. Arriving over the harbor, two planes from this second wave dropped flares. Others launched torpedoes, one of which blasted a hole in the *Littorio's* bow; another tore a hole amidships of the battleship *Diulio*, flooding both its forward magazines. Later, a British bomber arrived and dropped a bomb into the cruiser *Trento*, but like many of the other bombs

that fell that night, this failed to explode.

When the attack results by this puny air force were totalled, the world learned that, at a cost of two aircraft and their crews, the British had eliminated more than half the Italian battle fleet. The British had permanently disabled the *Cavour*. The *Littorio* would be out of action for four months, the *Diulio*, for six months. For the time being, at least, the British Royal Navy had gained undisputed control of the Mediterranean.<sup>14</sup>

Everywhere, military experts analyzed this British coup. Secretary of the Navy Frank Knox sent the Secretary of War Henry L. Stimson a memorandum concerning the success:

"The success of the British aerial torpedo attack against the ships at anchor suggests that precautionary measures be taken immediately to protect Pearl Harbor against a surprise attack in the event of war between the United States and Japan. The greatest danger will come from the aerial torpedo . . ."

Stimson heeded the warning and advised the Hawaiian command to strengthen itself against possible surprise air attack. Less than a year before Pearl Harbor, just before Christmas, 1940, Admiral James O. Richardson, commander in chief, US fleet, replied to a letter from Admiral Harold R. Stark, chief of naval operations, that torpedo nets within Pearl Harbor were "neither necessary nor practicable. The area is too restricted and ships, at present, are not moored within torpedo range of the entrance." Despite the earlier British success at

Taranto, Richardson was still thinking torpedoes might only be launched against Pearl Harbor from ships or submarines.<sup>15</sup>

On 5 January 1941, Admiral Husband E. Kimmel succeeded to Richardson's post. He neither rescinded nor modified the decision Richardson had made regarding antitorpedo nets even though the Martin-Bellinger Report, 31 March 1941, spelled out an attack on Pearl Harbor to be launched from Japanese carriers.<sup>16</sup>

Antitorpedo nets had not saved the Italian fleet at Taranto, and until this attack, almost all had believed Pearl Harbor's waters were too shallow for the successful launching of aerial torpedoes. The Japanese were quick to investigate whether that assumption was still valid. Commander Takeshi Naito, serving as assistant naval attache in Berlin at the time, flew to Taranto to investigate. In London, naval attache Lieutenant Commander Minoru Genda processed the attack's reports and forwarded them to Japan.<sup>17</sup>

In Japan, Admiral Isoroku Yamamoto, commander in chief of the combined Japanese imperial fleet, gave the reports consideration. The Taranto waters were more shallow than Pearl Harbor's, yet the British had successfully used aerial torpedoes there. The British had prevented the torpedoes from diving into the bottom of the harbor by fitting them with wooden fins.<sup>18</sup> Too intelligent and mature to plan future tactics around the weapons of the past, Yamamoto had concluded the aircraft carrier had become the decisive weapon in naval warfare, a conclusion that appeared substantiated by the British success at Taranto.<sup>19</sup>

Yamamoto respected US industrial might and the American people's character. In a speech to his old middle school in Nagaoka in 1940, he had warned against underrating the United States. He added, "Japan cannot beat America, therefore she should not fight America."<sup>20</sup>

Nevertheless, world events and Japanese jingoists were steering Japan toward a confrontation with the United States. In fulfilling his duty to prepare the fleet for the conflict, his respect for US military might dictated the strategy he would employ.

Since Japan lacked sufficient resources for a long war, success could only be achieved by a quick victory over the US Navy, which would give Japan a free hand in Asia. The Japanese fleet's efforts would be directed to forcing this early, decisive naval victory.<sup>21</sup>

After studying Genda's reports, Yamamoto said to Fukudome, "An air attack on Pearl Harbor might be possible now, especially as our air training has turned out so successful . . ."<sup>22</sup>

Recalled to Japan and promoted to commander, Genda—the expert on Taranto—on request, submitted a plan for an attack on Pearl Harbor. Before even the most daring of Japanese naval leaders would consider the plan practicable, there would be many problems to solve, but with energy and dedication, Genda pushed the plan toward perfection.<sup>23</sup>

As relations with the United States approached nearer and nearer to a breaking point, Yamamoto gained the naval general staff's consent for a Pearl Harbor attack only by threatening to resign. In the meantime, with the help of Genda and others, he had made progress on solving the technical problems while drilling his fliers to greater and greater excellence. From the Japanese point of view, his preparations must have seemed to materialize only in the nick of time.<sup>24</sup>

On 27 September 1940, Japan took the first step toward total estrangement from the United States by signing the Tripartite Pact with the Axis powers. On 24 July 1941, Japan demanded bases in southern Indo-China of the French Vichy Government and began occupying the bases 28 July 1941. It was clear that the bases' main use would be for an invasion of Malaya, the East Indies or the Philippines. The United States retaliated by freezing Japanese assets and by preventing the shipment of oil and other essential materials to Japan.<sup>25</sup>

Without these materials, especially oil, Japan would perish. It mounted a diplomatic offensive to break the embargo. Acknowledging failure to conciliate the United States by diplomacy, Premier Fumimaro Konoye resigned on 16 October 1941. Two days later, Hideki Tojo, promoted to full general, formed a new cabinet, taking over the portfolios of prime minister, war and home ministries.<sup>26</sup>

Though pessimistic about being able to settle the dispute with the United States on terms acceptable to Japan, Tojo made a last attempt to break the deadlock through diplomacy. His envoys made no progress.<sup>27</sup>

On 27 November 1941, after handing a note to the Japanese envoys that made demands he knew their government could not grant, Secretary of State Cordell Hull received a phone call from Stimson who wanted to know "what his finale" had been with the Japanese. According to Stimson, Hull said, "I have washed my hands of it, and it [the disagreement with Japan] is now in the hands of you and [Secretary of the Navy Frank] Knox, the Army and the Navy."<sup>28</sup>

The main Japanese striking force had already sailed from Tanken Bay, in the Kurile Islands, where it had assembled. If it received word that diplomacy had broken the impasse between Japan

and the United States, it was to return without attacking. No such order would reach the force.<sup>29</sup>

At 2130, Saturday, 6 December 1941, President Franklin D. Roosevelt sat in his study reading a decrypted cablegram addressed to the Japanese embassy. His cryptographers had broken the Japanese diplomatic code. Turning to his friend and confidant, Harry L. Hopkins, who was pacing the floor, he said, "This means war."<sup>30</sup>

This was not unexpected. On 25 November 1941, the President had told his assembled advisers that the United States might be attacked as early as 1 December 1941, "for the Japanese are notorious for making an attack without warning."<sup>31</sup> When Roosevelt, on 6 December 1941, read the decrypted Japanese diplomatic message indicating war, the Japanese attack force was only a few hundred miles north of Pearl Harbor and approaching the target at full speed.

The following morning, Captain John R. Beardsall brought the final part of the decrypted Japanese note to Roosevelt. According to this naval officer's recollection, he failed to mention that the Japanese ambassador was instructed to deliver the note at 1300.<sup>32</sup> Thirteen-hundred hours, Washington time, is 0730 Pearl Harbor time, the hour when the crews are ordinarily piped to breakfast and the ships are defenseless—the ideal time for a surprise attack.

To some who had read the note, the timing for its delivery seemed more than coincidental. There was still time to alert Lieutenant General Walter C. Short, commanding the Hawaiian Department of the Army, and Kimmel, neither of whom knew about the Japanese note.<sup>33</sup>

There were delays. It was 1218, Washington time, before Marshall dispatched a cablegram through Ra-

dio Corporation of America (RCA). The cable arrived in the Honolulu RCA office at 0733, Pearl Harbor time. Seven minutes later the planes of the first wave of the Japanese attacking force crossed the north shore of Oahu.<sup>34</sup>

The Japanese began their attack at 0750. In Washington, the Japanese encountered obstacles and delays in delivering the note breaking off diplomatic relations. It was 1420 (0950, Pearl Harbor time) when they were admitted to Hull's office. At this time, the Japanese, after achieving astonishing success, were breaking off their attack and returning to their carriers.<sup>35</sup>

The decoded cable reached Short at 1458. He sent a copy to Kimmel.

The cable said the Japanese were presenting an ultimatum at 1300, Washington time (0730, Pearl Harbor time). "Just what significance the hour set may have we do not know, but be on the alert accordingly . . ."<sup>36</sup>

To Short and Kimmel, who had lost the battle, their reputations and their careers, the message must have seemed particularly ironic. The Japanese had come, applied the lessons of Taranto and vanished over the Pacific horizon. **MR**

Allan Beekman specializes in the study of the Pearl Harbor attack. From Punchbowl, an extinct volcano in central Honolulu, he watched the high-level bombers of the second wave of attacking Japanese planes drop their bombs on Pearl Harbor. He is the author of *The Niihau Incident: The True Story of the Japanese Fighter Pilot Who, After the Pearl Harbor Attack, Crasplanded on the Hawaiian Island of Niihau and Terrorized the Residents.*

## NOTES

1. Hiroyuki Agawa, *The Reluctant Admiral* (New York: Kodansha International, USA, Ltd., 1984), 193.
2. John Toland, *The Rising Sun: The Decline and Fall of the Japanese Empire, 1936-1945* (New York: Random House, 1970), 150 footnote.
3. *Webster's American Biographies*, ed. Charles Lincoln van Doren (Springfield, MA: Meriam-Webster, Inc., 1966), 728; Brandt Aymar and Edward Sagrin, *World's Great Trials* (New York: Bonanza, 1985), 269.
4. Rear Admiral Ellis M. Zacharias, *Secret Missions: The Story of an Intelligence Officer* (New York: Paperback Library, 1965), 118 and 216.
5. Department of War, 1938 survey; Gordon W. Prange, *At Dawn We Slept: The Untold Story of Pearl Harbor* (New York: Penguin Books, 1981), 93-97.
6. As taught at the Japanese Naval War College; Asada Sadao, "The Japanese Navy and the United States," in *Pearl Harbor as History: Japanese-American Relations, 1931-1941*, ed. Dorothy Borg and Shumpei Okamoto (New York: Columbia University Press, 1973), 237.
7. John Deane Potter, *Yamamoto: The Man Who Menaced America* (New York: Paperback Library, 1965), 68.
8. Prange, 37-38.
9. Rear Admiral Shigeru Fukudome, *The Japanese Navy in World War II* (Annapolis, MD: US Naval Institute Press, 1969), 6.
10. *Simon and Schuster Encyclopedia of World War II*, ed. Thomas D. Parnish, (New York: Simon & Schuster, Inc., 1978), 25; Robert Goralis, *World War II Almanac, 1941-1945* (New York: G. P. Putnam's Sons, 1981), 131.
11. Vice Admiral B. B. Schofield, *The Attack on Taranto* (Annapolis, MD: Naval Institute Press, 1973), 23-24.
12. *Encyclopaedia Britannica* (Chicago: Encyclopaedia Britannica, 1969), 21.693D.
13. Parnish, 621.

14. Schofield, 5-6.
15. Prange, 45-47.
16. Ibid., 733.
17. Ibid., 320; Potter 70-71.
18. Potter, 69.
19. Kusaka, 92; Fukudome, 5.
20. Potter, 60.
21. Kusaka, 220.
22. Potter, 70.
23. Ibid., 71.
24. Ibid., 85; Mitsuo Fuchida, "The Attack on Pearl Harbor," in *The Japanese Navy in World War II*, 18.
25. Parnish, 635; *The World Almanac Book of WW II*, ed. Brigadier Peter Young, (New York: World Almanac Publications, 1981), 115; Herbert Fers, *Road to Pearl Harbor: The Coming of the War Between the United States and Japan* (New York: Atheneum, 1964), 238.
26. Courtney Browne, *Tojo: The Last Banzai* (New York: Holt, Rinehart and Winston, Inc., 1967), 100-102, 106-107.
27. Ibid., 111.
28. Hans L. Trelousse, *What Happened at Pearl Harbor?* (Schenectady, NY: New College and University Press, 1958), 311-314.
29. Agawa, 238.
30. Robert E. Sherwood, *Roosevelt and Hopkins: An Intimate History* (New York: Grosset & Dunlap, Inc., 1950), 426.
31. Trelousse, 126.2.
32. Prange, 485; Ladislav Farago, *The Broken Seal: The Story of Operation Magic and the Pearl Harbor Disaster* (New York: Random House, Inc., 1967), 346, 364-365.

33. Farago, 363, 367.  
 34. Ibid, 369-372.  
 35. Fukudome, 23; Farago, 379; and Walter Lord, *Day of Infamy* (New York: Bantam Books, Inc., 1983), 219.  
 36. Testimony of Lieutenant General Walter C. Short in *What Happened at Pearl Harbor*, 73; Allan Beekman, "Tadao Fujikami and the Pearl Harbor Attack

Warning Message," in *Citizen Pacific*, 19 December 1986; Personal interview by Beekman with Tadao Fujikami, the RCA messenger who delivered the cablegram. Fujikami said he delivered the cablegram some time after 0900. His testimony, which I consider the most reliable, differs by more than two hours from that given in *At Dawn We Slept*, 567-568. It is likely that in the chaos of that morning, time elapsed before the message was logged, decoded and delivered to Short.

# MRINSIGHTS

## Analyzing Strategic and Operational Risk

By Steven Metz

One goal of military planning is to reduce risk. Since the application of military force is inherently dangerous, planning and leadership can never fully expunge risk. It is a given, an immutable part of the environment. Sometimes, though, careful planning can keep it within tolerable limits.

Risk assessment occurs at all military planning levels. The platoon leader choosing among alternative routes to an objective considers the risk of injury, death or capture to the troops while a strategist developing global courses of action considers the risk of national defeat. At the tactical level, then, risk is physical. It threatens harm to those involved. At the operational and strategic levels, it is political and psychological. The threat is the failure to attain political objectives or of outright defeat.

Often, risk analysis is implicit rather than deliberate. Experienced planners and commanders know they must incorporate risk into their calculations and do so instinctively. Unfortunately, such informal methods are prone to break down, especially in stressful settings. A slightly more formal or explicit method for analyzing risk can help avoid this danger. It involves three steps: identifying the source and type of risk; assessing the level of acceptable risk; and attempting to ameliorate the risk.

**Identification.** At the operational and strategic levels, military risk is any factor that has the potential to prevent you from implementing your plan and attaining your objectives, or allowing the enemy to implement his plan and attain his objectives. The first step in risk analysis is to identify its specific forms. In a general sense, risk can be *decisive* or *indecisive*. Decisive risk threatens your strategic center-of-gravity or one of your operational centers-of-gravity. It thus leads directly to defeat in either the short or long term. Indecisive risk does not threaten you with outright defeat but causes you to change or delay attainment of strate-

gic or operational objectives. Indecisive risk thereby increases the campaign or operation costs.

Risk originates from enemy strengths, your weaknesses or shortages, and friction. Strengths and weaknesses are linked and complementary; an enemy strength corresponds to your weakness. Strengths and weaknesses are sometimes quantitative. Having too few troops, tanks and so forth is a source of risk. But risk also includes psychological and political factors such as morale, national will, political leadership, alliance cohesion and training level. To put it very simply, any factor diminishing your strength and augmenting the enemy's strength increases risk.

Risk originating in the political system is especially problematic, particularly for democracies. Because of the openness of the American political system, national will is vital for the application of military power but is fragile and often transitory. This means that the skill with which the political leadership cultivates national will—which is beyond the control of military planners—directly influences the risk level. At times, the dictates of public mobilization may directly influence military operations. Extensive involvement by civilian decision makers in military planning can also amplify risk. Adolf Hitler provides a clear example.

Friction also increases risk. This is any factor complicating the attainment of your objectives or easing the enemy's attainment of his objectives that is not due directly to enemy activity. The overcast weather during the first few weeks of the Battle of the Bulge is an example. The Germans did not cause it, but by grounding the US Army Air Corps and the Royal Air Force, the poor weather increased the risk to Allied forces. In modern war, dependence on electronic communication and data processing increases the opportunities for risk-generating friction.

**Acceptability.** The tolerance for risk varies among nations involved in conflict or war. Dis-

cerning the tolerance level—acceptable risk—is thus a vital military planning function at the strategic and operational levels. One key fact structures this process: The weaker antagonist in a conflict or war must accept greater strategic and, usually, operational risk.

Beyond this, defining acceptable risk is extremely complex. The final assessment is subjective, reflecting military art rather than military science. There are not, in other words, equations that can identify the acceptable risk level. This does not, however, mean that the planner cannot at least construct an analytical framework. The key to such a framework is understanding the criteria used to define the acceptability level:

- Aggregate resource balances.
- Mobilization level.
- Strategic and operational trends.
- Length of the conflict or war.
- Strategic culture.
- Political factors.
- Public support.
- Commanders' personalities.
- Troop quality.
- Technology.

Many types of *resources* affect a nation's ability to sustain a war. These include population, financial capital, natural resources, climate, infrastructure and the industrial/technological base. In a war or conflict, the nation with the larger resource base can accept greater risk in military operations. The stronger nation, in other words, would be better able to recuperate from any given nondecisive defeat. *Mobilization* is as important as aggregate resource balances. A nation approaching the mobilization limits—whether of manpower or wealth—must be willing to accept greater risks than one with a large untapped resource base.

Because strategic and operational *trends* indicate which antagonist in a war or conflict is the weaker party, they are also important for assessing acceptable risk. An antagonist who considers trends to be in his favor clearly would take a conservative approach and thus have a low threshold of acceptable risk. A nation that sees trends as adverse must accept greater risk. History is replete with examples. Japan, in 1941, and Germany, in 1914, both saw their strategic positions declining. This led them to accept great strategic risk and instigate war. Operationally, General Robert E. Lee recognized in 1863 that trends were inauspicious. He thus accepted substantial risk in his invasion of Pennsylvania and in the decision to fight a major battle on the adverse terrain of Gettysburg.

The *length* of a conflict is also important. As a war or conflict drags on, the risk levels acceptable to each antagonist change. Most of the time, the acceptable risk level increases during a protracted war. As a nation's human, political and economic stake in a conflict rises, so do the costs of defeat. As the price of defeat grows, higher risks are accepted. In particular, imminent exhaustion increases the acceptable risk level.

There is an exception to this rule. If a protracted war or conflict weakens the political system's legitimacy, a major military defeat may lead to the government's downfall. In such a case, the government may force military planners to become extremely conservative thus lowering the acceptable risk level. Russia in World War I experienced this. Early defeats such as the battles of Tannenberg and Masurian lakes shook the czar's government. By 1917, popular discontent was widespread, spurred by massive casualties and food shortages. Thus, even had the means existed to launch another major offensive like the one of August 1914, the Russians would not have done so.

*Strategic culture* is the body of beliefs, myths, perceptions, values and mores affecting the way a people interpret the structure of the international system, the nature and causes of international conflict, and their nation's role in world politics. Some strategic cultures naturally generate leaders, planners and a mass public able to tolerate high risk levels. This is not a constant: Historical experience can change strategic culture. For example, pre-World War I French strategic culture stressed aggression, the offensive and *élan*—all characteristics of a high tolerance for risk. After the horror of the Marne, Champagne and Verdun, French strategic culture showed little tolerance for risk, thus spawning the Maginot Line and the static defense strategy. Likewise, the World War II experience led to a powerful urge for risk aversion in Japanese strategic culture.

*Political factors* and *public support* are especially important in open democracies. Democracies are no more dependent on public support for a war effort than are dictatorships but are less able to manipulate and control it. The military planner must thus gauge the depth of public support for the war effort. Public support for a conflict or war can seem easy to measure, but this is misleading. In a pluralistic society—which all modern democracies are—certain segments of the public are more influential than others. Even if polls show majority support for a war, key elites are what really matter. A majority of Americans, for example, continued to back US involvement in Vietnam throughout

the 1960s. Yet, after the 1968 Tet offensive, support from elites in the media, US Congress and elsewhere declined. This changed the strategic equation and lowered the acceptable risk level in military operations.

For both democracies and dictatorships, eroding governmental legitimacy and public support will influence the risk level considered acceptable. This can work in two ways. As the legitimacy of Argentina's military government crumbled in 1982, the junta reassessed the acceptable risk level, threw the dice and invaded the Falklands. The Russian government in World War I, on the other hand, became more conservative as its legitimacy faded.

Other political factors may also influence the acceptable risk level, especially rifts within the government. For democracies like the United States, the electoral cycle may play a role. In the late summer of 1864, President Abraham Lincoln's reelection was questionable, and thus he tolerated Major General William T. Sherman's high-risk invasion of Georgia and the Carolinas. A year earlier or later, he might not have.

Some commanders—whether military or civilian—are psychologically able to tolerate higher risks. The American Civil War provides perfect illustrations. Lee had a very high tolerance for risk. He thus divided his already inferior force in the face of the enemy on a regular basis. Because this so surprised risk-averting Union Army commanders, like General George B. McClellan, Lee was able to engineer stunning victories in Virginia at Chancellorsville and Second Bull Run. Only with the emergence of a commander with a low tolerance for risk but a high tolerance for cost—General Ulysses S. Grant—was the Union Army able to blunt Lee's high-risk operations. World War II offers further examples of different tolerances for risk among commanders. General Sir Bernard L. Montgomery had a low tolerance; General George S. Patton Jr., a high one.

Since experienced, well-trained, well-equipped, well-led and well-supplied troops are unlikely to break at the tactical level, planners and commanders who control and lead them can accept greater risks at the operational and strategic levels. Sherman's march through the South showed this, as did the German's blitzkrieg. Commanders leading weaker or less experienced troops such as the Americans that invaded North Africa in 1942, the Confederate and Union armies of 1861 or the militia-dominant American forces of the Revolutionary War must avoid as much risk as possible.

In the realm of technology, possession of nuclear weapons is central. Again, this can either increase or decrease the acceptable risk level. Nuclear weapons may increase the acceptable operational risk level for nations like Israel since the ultimate survival of the state is secure. Nuclear weapons may, on the other hand, decrease the acceptable operational risk level in conflicts involving two nuclear powers because of the danger of escalation.

**Amelioration.** A military planner must gauge the acceptable risk level before framing strategic and operational plans. Obviously, the acceptable risk level will directly influence strategy and operations. For campaign planning, risk analysis will help determine when, where and how to apply force. For force development, risk analysis will indicate requirements.

Once the planner identifies risks, ways to ameliorate them should be suggested. At the operational and strategic levels, there are two ways of limiting risk. The *tangible* method musters greater resources or forces, or improves the existing forces' quality through better training, equipment or doctrine. Overwhelming resources obviously minimize risk. The *intangible* method limits risk by the quality of planning. This includes congruence with accepted standards such as the principles of war, tenets of AirLand Battle and elements of operational design. The overall coherence and creativity of the plan are also important. In general, the tangible method is more effective, but not always possible. The intangible method is cheaper, but has a less direct effect on the outcome of a campaign or war.

**Risk Analysis.** Risk analysis is not easy. There is no comprehensive, doctrinally sanctioned method for doing it. Even if the senior military leadership fully recognizes the importance of risk analysis, it does not lend itself to rigid formulation. Risk analysis is an art more than a science. It requires tough, subjective judgments, consideration of a complex range of nonmilitary factors and imagination. But as difficult as risk analysis is, it remains one of the cornerstones of high-quality military planning. **MR**

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# MR LETTERS

## Wrong Date, Wrong Enemy

May I draw your attention to Major Frederick J. Chiaventone's article, "Ethics and Responsibility in Broadcasting," in the August 1991 issue? He states, "The Times of London, almost inadvertently, sent to the Crimea in 1857 a flamboyant Irish adventurer by the name of William Howard Russell, with instructions to report back on activities of French and British forces there in their campaign against the Turks and Russians."

I should point out that had Russell gone to the Crimea in 1857, he would have missed the war by a full year. The peace treaty ending hostilities was concluded in March 1856. Furthermore, I should point out that Britain and France went to war against Russia in 1854 to deter Russian aggression against Turkey. Far from campaigning against Turkey, the British and French were fighting on that country's behalf.

Small points, I admit, but when one is writing an article about press accuracy . . .

**LTC D. M. Black, British Liaison Officer, US Army Infantry Center and School, Fort Benning, Georgia**

## First, Understand the Region

I appreciated Major Eduardo Aldunate's special perspective and insight into the nature of violence in Latin America in his article, "Observations on the Theory of LIC and Violence in Latin America," in the June 1991 *Military Review*. His thoughts frame what should be recognized as the cornerstone of successful low-intensity warfare—political strategy with military support based upon a thorough understanding of a region.

**ILT Christopher N. Prigge, USA, 11th Armored Cavalry Regiment, Bad Hersfeld, Germany**

## Interpreting Interpretations

I was pleased to read Lieutenant Colonel Carl W. Eikenberry's article, "Sun Bin and His Art of War," in your March 1991 issue. He has taken your readers on an interesting excursion into the world of Chinese military thought beyond Sun Zi (Sun Tzu). As a good China foreign area officer

(FAO), he also uses mostly Chinese-language sources; thus, for those unable to read Chinese but interested in more information on this subject, I also recommend reading Dr. John W. Killbrew's article, "Sun Bin's Art of War: A Summary," in the July–August 1980 issue of *Air University Review*.

There is one issue Eikenberry brings up that clearly illustrates the problem facing those brave enough to tackle "classical" Chinese materials such as Sun Bin's *Art of War*. He makes the specific point that Sun Bin "systematically developed appropriate guidelines for using different service arms on various types of terrain, recommending predominantly employing chariots on level ground, crossbowmen in defiles and cavalry against strategic locations." Yet, unsure of this explanation, he comments in footnote 25 that "Sun Bin's advocacy of using cavalry against 'strategic locations' is not entirely clear. Possibly his meaning was to exploit the mobility of cavalry to rapidly seize key terrain."

I also questioned this passage as translated from classical to modern colloquial Chinese in *Sun Bin Bingfa Qianshuo*, one of Eikenberry's sources. The original passage reads, in progression, from use of chariots to cavalry to crossbowmen—not chariots, crossbowmen and cavalry in the order Eikenberry presents them. However, the real problem lies in Eikenberry's use of the terms "strategic locations" with cavalry and "defiles" with crossbowmen. It is apparent that he derived these two English terms from the colloquial Chinese translation of the original classical version, plus footnotes from his Chinese source. In fact, these two terms are among the possible translations that could be rendered for the respective Chinese characters in the original text. However, this results in a lack of clarity, as Eikenberry admits.

Through further research using classically oriented dictionaries, comparing the various usages for the same Chinese characters in Sun Zi's *Art of War* and considering the progression described in the original text, one can come up with the word "irregular" to replace "strategic locations" and the words "obstructed" or "restricted" to replace "defiles." Thus, an appropriate English translation of the original passage might read, "On level ground use mostly chariots, on irregular ground use mostly cavalry and in restricted terrain use mostly

crossbowmen." This would appear to better satisfy both the textual and military requirements of the passage.

Unfortunately, Chinese characters usually have several meanings and their translations are often open to interpretation. Also, a common usage today does not necessarily mean it was the most common usage over a thousand years ago, and one must carefully consider all words in their context as well. It appears that, in this case, the colloquial Chinese translation did not fully account for all these factors, thus, Eikenberry's resulting expression of uncertainty.

I applaud Eikenberry's efforts to write on Asian military history and encourage more FAOs of the region to follow his example.

**LTC Stanley E. Henning, USA.**  
*Camp H. M. Smith, Hawaii*

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## **Iraq-Kuwait UN Observers**

I found Colonel James L. "Bud" article, "Peacekeeping in the Persian Gulf," in the August 1991 issue interesting but very dated. The thesis of the article was that the United States should take a very active role in setting up a peacekeeping mechanism following the Gulf War. Allan supports this thesis by critiquing the United Nations (UN's) approach to peacekeeping in general, "particularly its entrenched bureaucracy responsible for managing peacekeeping."

While I have no arguments with Allan's observations and insights, I was disappointed since I expected the article to be a description and critique of the existing UN peacekeeping operation in Iraq and Kuwait, not a recommendation on how it should be set up. Since this peacekeeping operation has received very little press in the United States, many readers may not know it exists, and most are probably not familiar with what has been set up.

The UN Resolution 687 for the Gulf War, adopted on 3 April 1991 and accepted by Iraq on 6 April 1991, requested the UN Secretary-General to submit a plan for deploying a UN observer unit to monitor a demilitarized zone. On 9 April 1991, the UN Security Council unanimously authorized by UN Resolution 689 a 1,440-member observer team. This team, the UN Iraq-Kuwait Observation Mission (UNIKOM), would be made up of 300 observers, five infantry companies, a headquarters unit, a military engineer unit (for clearing mines), a logistics unit and an air component of fixed-wing aircraft and light helicopters.

The first of the authorized UNIKOM observers (about 12) established observation posts in the designated demilitarized zone on 24 April 1991. On 10 May 1991, the UNIKOM commander, Major General Guenther Greindl of Austria, announced the formal establishment of the demilitarized zone following the withdrawal of all Iraqi and allied military forces from the area. Only the future will tell how well this UN peacekeeping operation will succeed; however, it has received and will likely continue to receive strong US support.

Allan's article stated that the UN Iran-Iraq Military Observer Group (UNIIMOG) "still exists in reduced numbers to fulfill the remaining parts of its mission." This was probably true when the article was written, but according to the June 1991 issue of the *UN Chronicle*, on 27 February 1991, the US Security Council accepted the UN Secretary-General's recommendation to let the UNIIMOG mandate expire.

**LTC William F. Furr, USAF, Airpower Research Institute, Maxwell Air Force Base, Alabama**

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## **Marshall's Myopic Commanders**

Major Daniel P. Bolger's May 1991 *Military Review* article, "Zero Defects: Command Climate in First US Army, 1944-1945," describes the surprise of the infantry commanders, Omar N. Bradley, Courtney H. Hodges, J. Lawton Collins and others, at tactical air chief Major General R. "Pete" Quesada's suggestion to cease dissipation of forces among the corps bogged down at Normandy and give the bulk of combat power to one corps. Bolger observes, "Now this pilot, who obviously knew nothing of fundamental Fort Benning-style infantry tactics, had broken in with his unprecedented suggestion."

What I find amazing but also disconcerting about this incident is that it reveals that generals regarded as the elite of the World War II US commanders were apparently unaware of two basic principles of war: economy of force and concentration of mass.

Quesada's suggestions, which were manifested in the Operation Cobra breakout, were no more than an application of official US Army doctrine. The 22 May 1941 edition of US Army Field Manual 100-5, *Operations*, "Doctrines of Combat," pages 22 and 23, states:

"Concentration of superior forces, both on the ground and in the air, at the decisive place and time and their employment in a decisive direction, creates the conditions essential to victory. Such

concentration requires strict economy in the strength of forces assigned to secondary missions."

The US Army Command and General Staff School's "Principles of Strategy," published in 1936, listed two basic principles—"concentration of combat power" and "economy of force." I have located other US Army doctrinal statements listing mass and economy of force dating back to 1927 and 1921. The concept of mass or concentration is basically common sense. The unlettered Confederate Civil War military prodigy Nathan Bedford Forrest expressed it as, "Ah gits thar firstest with the mostest." Yet, these Marshall-chosen top commanders had somehow never incorporated basic principles of war into their repertoire of military knowledge and understanding.

The myopia of Bradley, Collins, Hodges and others is distressing in what it suggests about General George C. Marshall's over-emphasis on rigid, paint-by-numbers, follow-the-dots infantry tactics and the resulting negative influence upon higher levels of operations and about the effectiveness of Marshall's process for selecting commanders. In an interview with commentator George Fielding Eliot

in October 1939, a month after being sworn in as chief of staff, Marshall asserted, "I do not propose to send our young citizen soldiers into action . . . under commanders whose minds are no longer adaptable to the making of split-second decisions in the fast-moving wars of today . . ." However, the conceptualization of the Operation Cobra breakout plan did not require a split-second decision nor was being bogged down in the bocage a fast-moving situation. Yet, the Marshall-selected elite commanders flopped about like beached whales.

Marshall's process of selecting leaders by his impressions of how well they knew and taught infantry tactics in classrooms was obviously too narrow and limited. How well one may function in a classroom is not necessarily a reflection of how well one will command in battle. Thomas "Stonewall" Jackson was a notoriously poor classroom instructor at Virginia Military Institute, Lexington, and infantry tactics was reportedly Jackson's worst subject. By Marshall's evaluative criteria, Jackson should have been inadequate as a battle leader.

Joseph Forbes, Pittsburgh, Pennsylvania

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### Correction

In the August 1991 issue, *Military Review* ran a review of *The Origins of the Korean War, Volume II: The Roaring of the Cataract, 1947-1950*. The reviewer subsequently pointed out that we misspelled the author's name. The correct spelling is Bruce Cumings.

### World War II International Symposium

An international symposium sponsored by the Confederate Air Force (CAF) and the new American Airpower Heritage Museum will be held 3-6 December 1991 in Midland, Texas. International experts will present more than 40 papers on a wide variety of World War II subjects. On 7 December 1991, the CAF, using authentic restored World War II aircraft, will recreate the bombing of Pearl Harbor. In conjunction, the American Airpower Heritage Museum, home to more than 100 aircraft and an extensive collection of World War II memorabilia and papers, will officially open. For more information, contact Linda Thorsen Bond, 2506 West Golf Course, Midland, TX 79701 or call (915) 684-6459.

### New Course

A new course is being added to the US Army's education system. The maneuver Control System (MCS) Managers Course is designed to train personnel to use the capabilities of the MCS and manage critical command and control information. Staff officers from brigade to corps level in grades first lieutenant to lieutenant colonel are eligible to attend the two-week course at Fort Leavenworth, Kansas. Those wishing to attend should apply through normal training channels. For more information, call Major Richard K. Sellars at (913) 684-3139 or DSN 552-3137, or write to: Commander, USACAC, ATTN: ATZL-CDC-D (Major R. K. Sellars), Fort Leavenworth, KS 66027-5300.



## From My Bookshelf

General Gordon R. Sullivan, US Army

Books are an important part of any US Army leader's professional development. There is never enough time to do all of the reading we want to do, but I learned early in my career that I could make some time for reading. By doing so, I was able to find relaxation in the midst of challenging assignments, prepare myself to master that day's challenge and educate myself for the bigger problems hidden in the future.

Professional journals and periodicals such as the *The Atlantic*, *The New Yorker*, *Harper's Magazine*, *The New Republic* and *Esquire* help me stay in touch with changes and viewpoints in our world, our society and our Army. Short journal articles always give me the timely information I need, and they are an important means of discovering authors whose longer works match my interests.

I always enjoy reading military history. I tell people that history strengthens me—it helps me and, I would hope, others realize that mortal man can overcome the obstacles in his path, transforming his situation through sound decisions and steadfast application of his will. The books I cite here have all helped me reach that conclusion, and I still refer to them even though I first encountered several of them many years ago.

When I say, "No more Task Force Smiths," I am drawing from repeated readings of T. R. Fehrenbach's ***This Kind of War: A Study of Unpreparedness***—a classic study of the consequences our Army faced when it entered the Korean War unready for conflict. Books that go beyond operational unreadiness to look at the problems an army in a democracy has faced are important to me. Colonel Robert A. Doughty's ***The Seeds of Disaster: The Development of French Army Doctrine, 1919–1939*** and his ***The Breaking Point: Sedan and the Fall of France, 1940*** top that list. I still enjoy Alistair Home's ***To Lose a Battle: France, 1940***, the book that first helped me think about this subject.

As an armor officer, I have spent many productive hours reading about the development and application of armored doctrine, and E. W. von Mellenthin's ***Panzer Battles: A Study of the Employment of Armor in the Second World War*** still tops my list of books in that category. Similarly, the old anthology edited by Ernest Hemingway, ***Men at War: The Best War Stories of All Time***, is still my favorite

source of short battle accounts of all types, both fictional and nonfictional. Along the same vein is the recently published ***The Norton Book of Modern War*** edited by Paul Fussell.

Michael Shaara's novel, ***The Killer Angels***, is my starting point for the American Civil War, because it addresses leadership at all levels in forthright, personal terms while capturing the tragedy and the glory of battle. To put all the battles, the politics and the suffering of the Civil War into a single coherent narrative, I know of nothing better than Shelby Foote's trilogy, ***The Civil War: A Narrative***. In recent years, I have been reminded how "history strengthens" by reading the memoirs of generals Ulysses S. Grant and William T. Sherman. Both of these remarkable men were outstanding warfighting generals, but their personalities were radically different. Those personalities shine through their writing, and I think everyone can learn about human diversity and strength in the face of adversity by reading their memoirs.

Since I have been using history to gain perspective on contemporary affairs, I rely on Richard E. Neustadt and Ernest R. May's ***Thinking in Time: The Uses of History for Decision-makers***. It reminds me, and hopefully will help you, to remember that history is a useful tool if used correctly, but abusing it is as risky as ignoring it.

I have always tried to read other than military-related books to relax. Quite honestly, I have not succeeded in recent years, but I have tried. In particular, I recommend Thomas J. Peters' ***Thriving on Chaos: Handbook for a Management Revolution*** and Daniel J. Boorstin's ***The Americans, Volume 3: The Democratic Experience***. Last, I try to fit in one of the Flashman series by George M. Fraser and find that the most recently published, ***Flashman and the Mountain of Light***, is enjoyable. I like poetry as well—Robert Service, Robert Frost, ***Other Men's Flowers*** compiled by A. P. Wavell and ***101 Famous Poems*** edited by Roy J. Cook.

My point is: read to relax, to learn and to expand your horizons. You will be better for it as you will grow personally and professionally.

GEN Sullivan is the Chief of Staff of the US Army

# MR BOOK REVIEWS

**OTHER LOSSES: The Shocking Truth Behind the Mass Deaths of Disarmed German Soldiers and Civilians Under General Eisenhower's Command** by James Bacque. 296 pages. Prima Publishing and Communication, Rocklin, CA. 1991. \$22.95.

Few books are likely to generate as much controversy or evoke as much anger as James Bacque's *Other Losses*. Already a best seller in Germany, Canada and England, the book charges that General Dwight D. Eisenhower, as head of the US occupation of Germany in 1945-1946, deliberately and casually annihilated about one million German internees in the various prisoner-of-war camps operated by US and French officers. Additionally, the author states that Eisenhower and his subordinate commanders willfully covered up the deaths by listing them in the category of "other losses" on their official reports.

Eisenhower's methods, according to Bacque, were simple. By changing the status of German prisoners from prisoners of war to "disarmed enemy forces," Eisenhower could escape the clauses of the Geneva Convention that dictated that prisoners of war receive the same rations as their captors. The author concludes that Eisenhower then cut the level of rations to near-starvation level. Moreover, as supreme commander of Allied Forces Europe, he allegedly denied the prisoners proper medical care and mail, also in violation of the Geneva Convention. Eisenhower's actions supposedly were prompted by his hatred of the Nazi regime and his desire to destroy the German state.

As expected, Bacque has encountered a number of critics on both sides of the Atlantic, foremost of whom is Eisenhower biographer Stephen E. Ambrose, director of the Eisenhower Center, University of New Orleans, Louisiana. Indeed, Ambrose convened a conference at the Eisenhower Center to examine Bacque's allegations. The results of the conference were that Bacque had indeed made a major historical discovery in uncovering the deaths of many detainees, but that his research was faulty and shameless in that he frequently omitted contradictory findings and only cited evidence that supported his thesis that Eisenhower was guilty of war crimes comparable to those of Nazi officers in charge of the concentration camps.

The casual reader will have difficulty in determining the truth of Bacque's allegations. Stung by

the criticism of Ambrose and other literary critics, Bacque has added an appendix to the US edition of *Other Losses* that addresses most of the charges leveled against his research. The result is not altogether convincing. The author fails to answer the obvious criticism that if one million Germans did die in the camps, what happened to the bodies? That Eisenhower and his commanders could cover up such an atrocity from contemporary observers, to say nothing of a generation of researchers and archivists, is inconceivable. Moreover, Eisenhower's ability to do so, even if he were so inclined, is highly questionable.

Unfortunately, *Other Losses* is not a balanced assessment of the treatment of German prisoners of war. That German prisoners were often mistreated and lived in harsh conditions after the war was over is undeniable. Bacque should be commended for bringing this issue to the forefront. It certainly deserves further research, but selective citations and hastily drawn conclusions serve little purpose. Readers should be wary of accepting Bacque's "unassailable research" at face value. It would be better to wait for all the evidence before deciding the merits of the author's allegations. Good history and good scholarship require nothing less.

LTC Cole C. Kingseed, USA, Naval War College,  
Newport, Rhode Island

**THE UNITED STATES ARMY: Challenges and Missions for the 1990s.** Edited by Robert L. Pfaltzgraff Jr. and Richard H. Schultz Jr. 274 pages. Lexington Books, Lexington, MA. 1991. \$35.99.

Roughly a quarter century ago, retired Lieutenant Colonel Vernon Pizer authored a relatively small book by this same title intended to offer readers an overview of the missions and capabilities of the Vietnam-era US Army. Although not earth-shattering in impact, it nevertheless gave career soldiers and other interested parties a somewhat sweeping and positive look at the state of ground forces in the 1960s. Here enters another book with the same energetic and vague nameplate as Pizer's.

Whereas Pizer's title focused upon the Army from within, this collaborative work addresses most of its essays (there are 19 written by 22 different authors) upon the Army from without. This book

is not for the new platoon or squad leader; rather, it is intended for the war college, Joint Chiefs of Staff and Brookings Institution careerists who find international strategy their diet *du jour*. The scope of the effort encompasses such diverse issues as the strategic defense initiative, drug interdiction missions, arms control, Total Force strategies and many more. For the world's future Colin L. Powells, this is essential reading.

The thesis attempting to hold the book together is that the global game board has tilted to such a new angle that we had best address and direct our Army in new strategic ways. As such, the editors offer 17 recommendations (some new, some visionary and some offered before) to face the challenges of the 1990s.

The editors have assembled a five-star lineup of writers—Colonel Harry G. Summers, General Donn A. Starry, Lieutenant General Frederic J. Brown, General Gordon R. Sullivan and civilian scholars David and Mady Wechsler Segal. Summers, who rightfully has earned his renown for his powerful insights into the Vietnam conflict, suggests that the Army's immediate crystal ball shows mid-intensity conflict, not a Grenada-type incursion, as the most likely threat facing us today, the reason being that the Soviet Union has grown weary of sponsoring low-intensity strife wherein the payoffs have been few.

Soldiers not familiar with the pen of Sullivan will want to delve into the current model of the nine types of warfare he foresees, the product of which he offers by analyzing opposing sides' intensity of effort and level of war. Sullivan, citing the need for doctrine to avoid the devastating *Sichelschnitt* facing France's Maurice G. Gamelin in 1940, perceptively targets the Army's operational art of battle—at corps, army group and theater levels—wherein we need the most work.

Brown, who retired commanding a continental army, tells us the key to our future lies in the Reserve Components, which in 1989 became our majority force for the first time in nearly 50 years. He correctly sees the problems of time management, command and control relationships over thousands of miles and the lopsided imbalance of forces in the National Guard versus the Army Reserve as ones in need of a fix.

Perhaps predictably, the book's main failure is that of trying to do too much, with so many divergent voices taxing the editors into reaching for literary continuity. Perhaps only a Rembrandt could blend so many colors on such a large palette.

Nevertheless, this is highly important reading for Army strategists, who are told that increased efforts

at mobilization and mobility via land, sea and air; civil military operations; force management based upon real world threats; increased lethality; and smaller budgets are among the watchwords of this last decade of the millennium.

LTC James E. Swartz, USAR, California State Polytechnic University, Pomona, California

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**WORLD WAR II IN THE MEDITERRANEAN: 1942-1945** by Carlo D'Este. 218 pages. Algonquin Books of Chapel Hill, Chapel Hill, NC. 1990. \$22.95.

Carlo D'Este, a relative newcomer to the field of World War II military history, has quickly established himself as a highly successful author. His two previous books were *Decision In Normandy*, an excellent operational analysis of Operation Overlord, and *Bitter Victory: The Battle for Sicily, 1943*, a comprehensive study of the campaign for Sicily. It might seem implausible that anyone can offer fresh insights into such well-plowed ground, but D'Este has done it with a style that is highly readable and yet sophisticated in its interpretations.

*World War II in the Mediterranean* is part of the "Major Battles and Campaigns" series edited by John S. D. Eisenhower. It is a concise overview of Mediterranean ground operations, encompassing three years of war in 200 pages. The work embraces Tunisia, Sicily and Italy, with the Italian campaign accounting for well over half the book. Although drawn largely from secondary sources, this volume transcends the strictly narrative mode and touches upon the realm of critical analysis that D'Este's readers have come to expect.

In a sense, what D'Este provides here is a primer on how not to wage coalition war. Foremost among the shortcomings he identifies is the Allied inability to establish concrete strategic goals for the theater in 1942, a situation that was never corrected. He also cites repeated instances of poor operational and tactical planning, as in the US Fifth Army where staff officers planned operations without consulting their subordinate commanders who had to execute them. Another mistake was the intermingling of Allied forces at the tactical level, a practice that contributed to the near-disasters at Salerno and Anzio. Finally, many operations suffered from the illogical designation of one ally as the main role and the subordination of others to secondary roles, much to the detriment of inter-Allied cohesiveness. D'Este could have pointed out that Eisenhower explicitly addressed these problems when he went to command Operation

*Overlord*, no doubt having learned his lesson in the Mediterranean.

Unquestionably, this book will fill a gap on many bookshelves, providing as it does a sound introduction to an often-neglected theater of World War II. Unfortunately, it also leaves a gap. It does not encompass the invasion of southern France (August 1944), which was conducted with forces from the Mediterranean theater, and which is seldom discussed in histories of the European campaign. But D'Este should not be faulted for what he did not write; what he does present in this book is quite good.

**Christopher R. Gabel, *Combat Studies Institute, USACGSC***

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**GUDERIAN'S SIXTH PANZER CORPS AND THE BATTLE OF FRANCE: Breakthrough in the Ardennes, May 1940** by Florian K. Rothbrust. 201 pages. Praeger Publishers, New York. 1990. \$39.95.

If you read only one book about World War II this year, Major Florian K. Rothbrust's *Guderian's Sixth Panzer Corps and the Battle of France* would be an excellent choice. Rothbrust focuses on the now famous German victory over the French army in May 1940. Unlike previous works in English about this battle, however, Rothbrust's work is based on solid research and fundamental scholarship. The majority of his facts come from actual German war records and unit journals. Consequently, the reader is able to gain clear and detailed insights into the awesome difficulties that actually went into the German victory.

Rothbrust ably traces every step of the German army's Western campaign, from its earliest conceptual stage through the adoption of the so-called Manstein Plan to the final exploitation of the Meuse River crossing. Combat arms and combat service support officers, alike, will find the details concerning the difficulties of managing and supplying Panzer Group Kleist's 42,000 vehicles as they converged on the handful of roads through the Forest of Ardennes fascinating and timeless. Likewise, the reader will be impressed by how the German army, within one afternoon, massed several regiments of artillery and 1,000 aircraft to cover the decisive assault crossing of the Meuse River.

The multitude of details Rothbrust provides do not make the book boring or cumbersome. On the contrary, the details are balanced by a useful analysis of the various personalities that collectively put together the now classic military operation. As a result of Rothbrust's efforts, the reader is able to gain a clear insight into the 1940 German army. It

is certain that the reader will appreciate that the victorious 1940 German army was an organization that had both weaknesses and strengths. In fact, one might conclude that it was an army with more weaknesses than strengths.

In summary, Rothbrust's work will do a lot to dispel many of the myths and misperceptions about the German invasion of France in 1940, such as the assertion that the German army was successful because it got inside the French army's so-called decision cycle. Rothbrust convincingly states that a good measure of the German army's success in 1940 came from an ability of leaders, at all levels, to aggressively and flexibly execute detailed plans that repeatedly massed the overwhelming effects of combined arms forces at the right places, at the right times.

**MAJ Paul E. Melody, USA, 2d Brigade, 2d Infantry Division, Tongduchon, South Korea**

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**BATAAN, OUR LAST DITCH: The Bataan Campaign, 1942** by John W. Whitman. 754 pages. Hippocrene Books, Inc., New York. 1990. \$29.95.

Nearly half a century has passed since the first great US battle of World War II was fought and lost at terrible cost. Surprisingly, apart from the 1953 official history, *The Fall of the Philippines*, by Louis Morton, there has been little serious study of the battle for Bataan. This lack has now been remedied by Lieutenant Colonel John W. Whitman's magisterial work, a book that is almost certain to endure as the definitive history of this great defeat.

In order to reconstruct the 93-day campaign in detail, Whitman devoted nearly two decades to research, including interviewing some 350 survivors. As evidenced by the result, he brought to his task not only technical skill and analytical ability but profound insight and understanding. Whitman writes with great objectivity, setting forth the evidence without gloss. One of the rare instances when he allows his feelings to show is his reaction to General Douglas MacArthur's report to the War Department in late January 1942 on the withdrawal of the US Army from the first main battle position to the reserve battle position.

Execution of the withdrawal bordered on the chaotic, casualties were heavy and tons of irreplaceable equipment were lost. Yet, MacArthur radioed General George C. Marshall: "Under cover of darkness I broke contact with the enemy and without loss of a single man or an ounce of materiel am now firmly established on my main battle position . . ."

More than any other recent book, *Bataan* depicts the terrible cost of becoming involved in a war

when not ready to fight. It tells a story about US unreadiness such as marked the opening of every one of our wars from the Revolution to Korea. It is a tale of ill-preparedness, ignorance and disaster, paid for in the blood of the men called upon to fight the first battles.

*Bataan* presents nearly every kind of professional, moral and physical problem that could face a soldier. The greatest problem of all was the commander's alone when total defeat was certain. Once he made his final decision, Major General Edward P. King Jr., the commander of the exhausted 75,000 men in Bataan, called his staff members together and said to them: "I did not ask you here to get your opinion or your advice. I do not want any of you saddled with any part of the responsibility for the ignominious decision I feel forced to make. I have not communicated with General [Jonathan M.] Wainwright because I do not want him to be compelled to assume any part of the responsibility. I am sending forward a flag of truce at daybreak to ask for terms of surrender. . . ." Exactly 77 years to the day that General Robert E. Lee went to meet General Ulysses S. Grant, King put on his best uniform and set out to meet the Japanese commander.

My only suggestion is that the book needs an order-of-battle appendix. It is difficult from the text to follow the changing composition of the Japanese force in Bataan. Many readers may also find it difficult to understand the complicated composition of the US forces. They consisted primarily of newly-mobilized, untrained and badly equipped Philippine army divisions backed by the US Army's regular Philippine division, composed of long-service Philippine scouts and one US infantry regiment. In addition, there were US Air Corps, Marine and US Navy elements (all fighting as infantry) and National Guard tank battalions and antiaircraft regiments.

Whitman has dedicated his book "To the Philippine Scouts, The finest soldiers in the Philippines," a well-deserved tribute to some of the best professional soldiers ever to have served the United States.

**COL Thomas S. Jones, USA, Retired,  
Clearwater, Florida**

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**THE LAST PRUSSIAN: A Biography of Field Marshal Gerd Von Rundstedt, 1875-1953** by Charles Messenger. 367 pages. Brassey's, (US), McLean, VA. 1991. \$24.95.

Charles Messenger's book fills a void in the history of one of the least well-known German general officers, Field Marshal Gerd von Rundstedt. Unfortunately, the book does not read as well as others Messenger has written. The style seems a bit stilted

and perhaps suffers from being written too quickly. Minor editing errors add to this perception.

Messenger's credentials are impressive, and his background as an armor officer in the British army lends to his credibility for writing military histories. *The Last Prussian* gives an unbiased, yet empathic, look at a soldier from a soldier's perspective. It is unfortunate that Rundstedt and his wife died years prior to the writing of the book. Messenger obviously had to resort to conjecture to fill in gaps left by a lack of firsthand knowledge.

Rundstedt's career is traced from his beginnings as a Prussian cadet at *Schloss Oranienstein* (home of the current *Bundeswehr* 5th Panzer Division) to the prisoner-of-war camps in Wales where he was charged as a "war criminal." His army life was unlike many of the other German generals we have grown used to reading about and typifies the stereotype of a pre-World War II German General Staff officer. Serving in successive chief of staff positions, his experiences of World War I certainly were different from those of officers such as Erwin Rommel, who spent the majority of the war leading small units in combat.

Perhaps because of Rundstedt's affiliation with the German General Staff over the years, he was more susceptible to accusations of "war crimes" by those who chose to heap the collective responsibility on that group of men. In any case, Rundstedt excelled at staff responsibilities and quietly made his way to the highest positions of the army before retiring the first time in 1938.

Messenger dwells on Rundstedt's testimonies regarding the plots against Adolf Hitler and offers that Rundstedt had to have known about some of the plots due to his position and proximity to some of the plotters. Despite Rundstedt's denials, the reader is left with the impression that Rundstedt wanted little to do with the political activities of the anti-Hitler officers and conveniently avoided involvement. This lack of action may well be the cause of the distinct lack of interest shown by post-war Germans in one of their most capable general officers. As Messenger aptly points out, there are no *kasernes*, streets, ships or installations named "Rundstedt" today in Germany.

All in all, this book adds favorably to the knowledge of the traditions of the German officer corps. I can find no fault in Messenger's source documentation which, while not extensive, is thorough and certainly contains key materials not generally available. I recommend this book for those who wish to gain an insight into the German officer corps' traditions prior to 1945.

**MAJ Edwin L. Kennedy Jr., USA,  
Center for Army Tactics, USACGSC**

**MOLTKE, SCHLIEFFEN AND PRUSSIAN WAR PLANNING** by Arden Bucholz. 352 pages. Berg Publishers, New York. (Distributed by St Martin's Press, Inc., New York.) 1991. \$59.95.

Dr. Arden Bucholz's interesting 1985 book, *Hans Delbruck and the German Military Establishment: War Images in Conflict*, addresses the intellectual and bureaucratic divide between academic and uniformed military historians in the Germany of William II. As he notes, that subject was a natural preparation for a thoroughgoing examination of the evolution of the great General Staff and Prussian/German war planning, the subject of *Moltke, Schlieffen and Prussian War Planning*. The author's object is "to apply new theoretical perspectives to investigate the creation and development of modern war planning," in short, to look to organization theory for questions to pose to the historical record of the Prussian General Staff.

When he began writing *Moltke* in 1986, Bucholz could argue the similarity of the global environment between the 1890s and 1990s based upon the structural dominance of a bipolar alliance system whose members were involved in a costly arms race, in a period of rapid technological change, during a time of increasing specialization of labor. Unfortunately, it takes longer to write a book, apparently, than it does for the world to change. The bipolar world seems long gone in 1991. The Warsaw Pact is defunct and, with it, much of the pressure to push weapons technology and acquisition forward at ever-increasing rates. At first glance, only the strategic nuclear problem, in which the ground forces have only a modest role, would seem to remain sufficiently unchanged to fit the historical analogy that Bucholz seeks to employ to argue for relevance. To draw such a conclusion would be very wrong indeed.

Bucholz's book is a great corrective to much of the nonsense that has been written about the Prussian General Staff in the gestation period of Air-Land Battle. In particular, he points out that the General Staff was preeminent largely because of the collective technical competence of its members, rather than their status as masters of some esoteric, arcane metaphysical theory of war—"Jedi Knights," if you will. They could make the trains run on time during mobilization.

Indeed, Bucholz traces their eventual undoing, in part, to the educational evolution, particularly in the War College, from a general focus during Count Helmuth von Moltke's student days in the 1820s, to the practical and increasingly technical focus found by Count Alfred Schlieffen's time and beyond. This change in concentration was driven by the increasing complexity of war-making tech-

nologies for fighting, for movement and for information flow. This growth in complexity was accompanied by the geometric increase in the size of armies in general, the space required to accommodate them and the growing mastery of like technologies by likely rivals, particularly the French.

Unfortunately, the ever-increasing technical focus, the contemporary culture of Social Darwinism and the popularity of other positivist and determinist views of history led to a corruption of history and theory. This, in turn, produced a rigid institutional intellectual framework, increasingly unsuitable for the unpredictable, inherently human business of crisis management. Running railroads depended on volumes of information passed at great speed between multiple control nodes. The eternal quest for faster and faster mobilization increased both the pressure on the staff and the requirement for detailed and rigid advanced planning. In the end, this rigidity confounded the policy makers and accelerated the outbreak of the most tragic war of this century.

Bucholz employs three perspectives of organizational theory—developmental, environmental and instrumental—as his framework of analysis. He looks at four elements of war planning: organizational (which includes the often neglected influence of the more technical topographic and railroad sections of the general staff), the representational (the question of how the General Staff planners looked at the influence of space or area on warfare), the educational and the analytical (the role of staff rides and simulations on the governing view of war). Bucholz does not neglect the role of the individual in all this, particularly the Moltkes and Schlieffens.

Bucholz's volume is based upon impressive documentary and "synthetic" research (that is the excellent use of contemporary secondary sources). He draws heavily (and effectively) on the work of Eberhard Kessel to assess the personal influence of the elder Moltke and Schlieffen. Not a straight institutional history like Walter Goerlitz's *History of the German General Staff, 1657-1945* or Trevor N. DuPuy's *Genius for War: The German Army and General Staff, 1807-1945*, and far more sophisticated than either in terms of analysis, Bucholz's volume will be mandatory for serious students of German military history, mobilization armies, long-term war planning and professional military education. Its cost is intimidating, but for the officer deeply interested in these topics, not unreasonable.

**COL Richard M. Swain, USA,**  
*Desert Storm History Project, USACGSC*

**CRUEL APRIL: The Fall of Saigon** by Oliver Todd. 470 pages. W. W. Norton & Co., Inc., New York. 1990. \$29.95.

This book should stand the test of time as one of the better books on the Vietnam War. It is the best treatment, so far, of the collapse of South Vietnam. Covering the four months prior to the communist conquest of Saigon in April 1975, *Cruel April* looks in detail at the actions, or lack thereof, of the major protagonists and several bit players.

Oliver Todd is a French journalist who covered the war from 1965 to 1973. Originally viewing the conflict from left-of-center, he became disillusioned with the communist view of the war. He presents here a balanced account of the events, from the major governments involved down to private citizens of both North and South Vietnam. Todd's inclusion of items placed in the "personals" sections of the

Saigon newspapers gives a particularly poignant feel for the desperation of those last days.

The outlines of the story of the fall of South Vietnam are familiar to those reasonably knowledgeable about the war. The strength of this book is its detailed look at the events and characters as a nation rapidly collapsed. The role of such players as US Ambassador Graham Martin, President Nguyen Van Thieu of South Vietnam, General "Big" Duong Van Minh and communist General Tra are particularly interesting. The sense of unreality that permeated the thinking of some people on the US and South Vietnam side may seem hard to understand today. At the time, however, it was difficult for many to believe that the United States would totally abandon South Vietnam after we had poured so much blood and treasure into the war.

## PASS IN REVIEW

**DESERT SHIELD FACT BOOK** by Frank Chadwick. 64 pages. Game Designer's Workshop, Bloomington, IL. Distributed by Berkley Publishing Group, New York. 1991. \$10.00.

By the time this review appears in print, the *Desert Shield Fact Book* will be relegated to use as a reference resource. Of the many currently available, quickly published books, it is very useful to researchers, the general population and wargamers in understanding all facets of the war. The enclosed map is a facsimile of a government map of the area and complements the text, tables and charts very nicely.—**LTC John R. Finch, USA, Combat Studies Institute, USACGSC**

### **WAR IN AMERICA TO 1775:**

**Before Yankee Doodle** by John Morgan Dederer. 323 pages. New York University Press, New York. (Distributed by Columbia University Press, New York.) 1990. \$40.00.

The author discusses the influences that have dictated the United States' attitude toward war and armies. He surveys the 15th to 18th centuries and shows how and why the United States developed militarily. He does not discuss battles. There are many interesting tangents, such as the one comparing American Indians to the "wild" Irish of the 16th century. The early pages drag, but later pages give rewards of relationships, insights and questions for further study. Unfortunately, some of the most intriguing conjectures are said and not shown. As a unique and valuable study for colonial and military historians, I enthusiastically recommend this fresh, mind-stretching study.—**Lynn L. Sims, Command Historian, US Army Logistics Center, Fort Lee, Virginia**

**THE ARMY'S NUCLEAR POWER PROGRAM: The Evolution of a Support Agency** by Lawrence H. Suid. 136 pages. Greenwood Press, Westport, CT. 1990. \$39.95.

The author traces the development of the agency and the program from small project to large support program within the US Army Corps of Engineers. Originally conceived to apply nuclear propulsion to land vehicles, the program built and operated five stationary nuclear plants. The technical and practical knowledge gained assisted the Atomic Energy Commission and private contractors in building today's successful nuclear-powered generator facilities. Short, easy to read, extremely informative, with extensive footnote references, this book would be valuable to associates of the Corps of Engineers and military history buffs.—**MSG Nicholas M. DiGiorgi, USAR, 76th Division (Training), West Hartford, Connecticut**

Todd reinforces many of the criticisms of the United States' conduct of the war, particularly its actions in the final days. The Geneva accords are stripped of any pretense of enforcement on the part of the US government. He attacks some of the other themes that have grown up around the conflict. For example, the South Vietnamese army *did* fight well in several instances, particularly under good leadership, and the communists won not with guerrilla forces but with regular North Vietnamese divisions equipped with tanks and other armored vehicles.

This is an excellent book. It differs from much of the Vietnam literature in that Todd writes from a unique perspective about a special period of the war. The quality of this book is enhanced by his access to sources that might not be available to other writers. The difficulties in translation some-

times cause awkward sentence structure but do not distract significantly from the story.

LTC John A. Hardaway, *USA, Retired*,  
Leavenworth, Kansas

**SEAPOWERS 2000** by Bernard Ireland. 160 pages. Arms and Armour Press, London. (Distributed by Sterling Publishing Co., Inc., New York.) 1990. \$29.95.

In this keenly observant and informed study of current and future trends in international seapower, Bernard Ireland projects the changes he foresees in the progress of naval ships and weapons during the next decade. He envisions where development is most likely to occur and what form it will take.

Ireland realizes that technological changes are subject to political and budgetary influences.

**UNDERSTANDING DEFEAT: How to Recover From Loss in Battle to Gain Victory in War** by T. N. Dupuy, et al. 256 pages. Paragon House, New York. 1990. \$24.95.

Although this book will not become a military classic, it is quite intriguing and interesting. Worth reading, it is easily read, even when dealing with statistical data. The reader will need to know military history, though, as the six authors assume reader familiarity with either the commanders or the battles discussed. This reviewer was at a loss with one of the great captains and two of the battles discussed. Two parts, "Concept of Defeat" and "Reasons for Defeat," could have been expanded to provide more detail and discussion.—CPT Thomas C. Condry, *USA, 6th Infantry Division (Light), Fort Wainwright, Alaska*

**CHINA'S FATE: A People's Turbulent Struggle With Reform and Repression, 1980-1990** by Edward A. Gargan. 340 pages. Doubleday & Co., Inc., New York. 1990. \$22.95.

The Tiananmen Square incident of 4 June 1989 spawned an entire genre of works on the event itself and the political condition of the Chinese people. Edward A. Gargan, a former correspondent for *The New York Times*, has produced a readable and highly sympathetic portrait of the struggle of the Chinese people to achieve a measure of control over their own destiny. Gargan's portrait is painted in strong emotional hues. His chapter, "China in the Mind of America," is especially informative. For those with a special interest in contemporary China, *China's Fate* is well worth reading.—COL Michael T. Byrnes, *USA, US Embassy, Beijing, People's Republic of China*

**THE ILLUSTRATED NAPOLEON** by David G. Chandler. 182 pages. Henry Holt & Co., New York. 1990. \$35.00.

At first glance, *The Illustrated Napoleon* seems to be an abridgment of David G. Chandler's earlier works. At second glance, it proves to be an excellent, easy-to-read single reference source on Napoleon. Well illustrated (as the title suggests) with pictures, maps, charts and a 16-page colored plate section, it is compiled in chronological sections. Of special note are the chapters on the instruments of power and the legacy of Napoleon that provide insight into the French military system and Napoleon's nonmilitary accomplishments. This book is well worth the reading time.—MAJ Gary D. Rhay, *USA, Combat Studies Institute, USACGSC*

However, he believes this should not alter the basic need for up-to-date ships and weapon systems.

Concerning surface warships, the author contends that the frigate will be used in large numbers by the majority of international fleets. This type of ship is in a constant state of evolution and affords many advantages—especially for the small navies of the world. The frigate is capable of defending itself against various methods of attack and is inexpensive enough to allow significant numbers to be built. Although quality may conflict with quantity, the frigate will continue to undergo changes in construction and improve its weaponry.

Ireland also forecasts that, due to the advancement of weapon systems, new classes of warships will undoubtedly emerge. The battleship—the status symbol of nations for 100 years—will go the

way of the dinosaur. He states, “The world’s last battleships should see out their final years in much the same role as well-considered but venerable statesmen.” He also predicts vertical/short takeoff and landing planes will become more evident in the world navies, since most nations cannot afford large aircraft carriers.

The author concludes his book with an interesting but disturbing forward look at the terroristic weapon of the sea—the mine. Ireland declares that mines are relatively cheap, stockpile easily and can be periodically updated. They are also easy to lay and difficult to remove. The author states that the major problem in combating mines is the improved development of the mine that enables it to differentiate between warships and minesweepers. However, Ireland remarks that laying mines is also risky

#### **MILITARY DOCTRINE:**

**Change in the East?** by Pal Dunay. 85 pages. Westview Press, Boulder, CO. 1990. \$12.95.

Outdated almost as soon as it was released, this book analyzes how the Soviet client states in Eastern Europe were affected by changes in Soviet doctrine. With the Warsaw Pact’s demise and a Soviet-equipped/mod-  
eled force rendered impotent in Iraq by Western doctrine and technology, the book’s analysis is now useless. With little confidence that even massive Soviet forces could recover from a first blow like they witnessed in Iraq, whatever military support there was for a strategic defense probability died in the Iraqi desert. Unless Eastern Europe is your particular interest, be assured you can skip this book without any intellectual loss.—CPT James Lacey, USA, Headquarters, US Army, Europe, and Seventh Army, Heidelberg, Federal Republic of Germany

#### **WHERE THE DOMINO FELL:**

**America and Vietnam, 1945 to 1990** by James S. Olson and Randy Roberts. 321 pages. St. Martin’s Press, Inc., New York. 1991. \$19.95.

For the authors, the Vietnam War was “the wrong war in the wrong place at the wrong time.” Clear, concise and often pithy, this book is full of delightful anecdotes. The chapter on Southeast Asia and US events from 1975 to the present is its greatest contribution. Also excellent is its discussion of Hollywood’s cinematic and televised treatment of the war, relating film makers’ changing interpretations of Vietnam veterans and the war itself to the public’s chameleon-like views of the conflict. There is little, however, to set this book apart from others. The authors do include a useful bibliographic essay that provides a good starting point for wider reading on the subject.—MAJ Dale E. Wilson, USA, US Military Academy, West Point, New York

**VISIONS OF WAR, DREAMS OF PEACE: Writings of Women in the Viet Nam War.** Edited by Lynda Van Devanter and Joan A. Furey. 214 pages. Warner Books, Inc., New York. 1991. \$9.95.

This collection of war poetry by women who served in Vietnam marks the emergence of a new voice in American literature. Collectively, the works published in this book speak to the experience that was Vietnam and its impact on the women who served there. The real value is found in the individual poems. The authors have captured the kaleidoscope of experiences they endured while engaged in their individual duties. Many of the writers were nurses, and their duties brought them face to face with the human destruction associated with war. This is a book of life and death, healing and time, and service and helplessness. Read this book.—CPT Mark T. Lisi, USA, US Army Combined Arms Command Combat Developments, Fort Leavenworth, Kansas

business: "Gone are the days when a destroyer flotilla could penetrate enemy waters, lay a mine field and be clear by daybreak. With modern surveillance there is no 'cover of darkness.'"

**Bud Feuer, Roanoke, Virginia**

**ARTILLERY 2000** by Ian V. Hogg. 160 pages. Arms and Armour Press, London. (Distributed by Sterling Publishing Co., Inc., New York.) 1990. \$29.95.

British author Ian Hogg, a retired master gunner, is one of the best writers on artillery subjects in the world today. He has the enviable ability to write about artillery in a manner appealing to artillerymen and nonartillerymen alike. He is particularly adept at making complex technical topics under-

standable to the layman. In his latest book, *Artillery 2000*, Hogg presents a concise survey of the world's current field artillery systems; a preview of the fire support equipment under development; and a projection of where it is all going by the start of the 21st century.

In his current systems review, Hogg concentrates on describing gun design families and each grouping's tactical implications. He also devotes considerable space to explaining the key advances in artillery ammunition over the last 25 years—improved conventional munitions, laser-guided rounds, self-forging fragment antitank rounds, base-bleed projectiles, the extended range full-bore projectile design and the various experiments underway with liquid propellants.

In his concluding chapter, Hogg examines the

**ICEBREAKER: Who Started the Second World War?** by Viktor Suvorov. Translated by Thomas B. Beattie. 364 pages. Hamish Hamilton Ltd., London, England. (Distributed by Viking Penguin, Inc., New York.) 1990. \$22.95.

Viktor Suvorov asks who started World War II and concludes that Joseph Stalin and the Communist Party were solely responsible. To support that conclusion, he cites: required positioning of forces *close to the border*, not in defensible positions; Communist literature/doctrine spelling out final plans for Western Europe's conquest; equipping Soviet military with offensive capabilities versus defensive planning; engineer and railroad troops concentrated on the border, not in rear areas; and internal military districts vacated to free troops for deployment forward. Although impossible to verify his conclusions without seeing the original Soviet sources, his presentation is compelling and cannot be dismissed lightly. It bears examination.—**CPT Richard D. Koethe III, ARNG, Tennessee Army National Guard, Memphis, Tennessee**

**THE RIGHT OF INNOCENT PASSAGE AND THE EVOLUTION OF THE INTERNATIONAL LAW OF THE SEA** by Francis Ngantcha. 224 pages. Columbia University Press, New York. 1990. \$45.00.

Under the international law of the sea, the right of innocent passage allows ships of all nations to peacefully transit the territorial seas of other nations. This historically recognized national concept has been continually eroded by expanding notions of national sovereignty. Francis Ngantcha surveys the current status of this doctrine in a thorough but well-written work that should appeal to international lawyers, as well as anyone interested in the developing legal framework of the new world order. Those involved in planning for strategic force projection will find the blend of historical and legal analysis very useful.—**CPT William T. Barto, USA, I Corps, Fort Lewis, Washington**

**RETHINKING EUROPEAN SECURITY.** Edited by Furio Cerutti and Rodolfo Ragonieri. 182 pages. Taylor & Francis, Inc., New York. 1990. \$39.50.

This book offers the reader a critical analysis of the myriad of questions facing military and civilian decision makers on both sides of the Atlantic Ocean. This series of essays examining the theoretical and practical aspects of European security presents new interpretations of a popular European security concept—"defensive defense." Excellent essays by Sir Michael Howard set the tone for discussions ranging from theoretical proposals for Central European security to specific suggestions for the defense of the European "southern tier." Those interested in European security and the unique problems of the southern flank will find the book's contributions valuable.—**MAJ Charles K. Pickar, USA, School of Advanced Military Studies, USACGSC**

current trends (both technical and tactical) in artillery development. Many of his opinions such as on the question of women serving on gun crews are not exactly what you would expect from a gunner whose own professional experience reaches back to World War II. On the other hand, Hogg is very critical of some trends in many Western armies. He views with alarm the US Army's tendency to replace the 8-inch howitzer with the multiple launch rocket system—a trend that may be accelerated now as the result of experience during the recent Gulf War.

*Artillery 2000* does suffer from a few flaws of omission, particularly in the supporting systems area. Artillery command and control vehicles such as the US fire support team vehicle and the Soviet armored command and reconnaissance vehicle are not mentioned at all; nor are systems like the US field artillery ammunition support vehicle. These are, however, relatively minor complaints. This is a good book for the general reader wanting to learn something about the nuts and bolts of modern artillery.

LTC David T. Zabecki, USAR, Bexbach, Germany

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**THE GULF WAR: Its Origins, History and Consequences** by John Bulloch and Harvey Morris. 309 pages. Methuen, London. (Distributed by David & Charles, North Pomfret, VT.) 1989. \$29.95.

*The Gulf War* is a superb study of the politics at all levels of the Iran-Iraq War of which the military action, though bloody and costly, was only a part. The authors are British journalists with extensive Middle East experience who serve as editors for Britain's *Independent*. In this work, originally published in 1989, they ably depict the suspicion, misunderstanding and double-dealing surrounding the Iran-Iraq War.

Rarely has an analysis of this war, the events preceding it and the currents surrounding it portrayed so clearly the stumbling but often cynical and ruthless manner in which the belligerents, the superpowers and those seeking to profit at the margins (France, Britain, Israel, Egypt, Jordan, Syria and others) seek to forward their agendas. Anyone searching for a good, concise introduction to the conflict's historical roots and the political jockeying on all sides before, during and immediately after the war will find it here.

The authors use a curious organizational scheme, treating particular aspects of the conflict one chapter at a time. For the most part, this works well enough, but it does cause some rather surprising disjunctures. Also, the authors basically depict the

war events chronologically. Such idiosyncrasies require the reader to be alert and to remember with some clarity what has gone before in order to prevent similar distracting disjunctures. In addition, a few minor factual and interpretive errors have escaped edit.

These complaints aside, the authors make several insightful observations about the war and its consequences. They hammer throughout at the illogic pervading many of the players' reasoning and actions, citing faulty analyses resulting from prejudice and incomplete information, and the policy decisions and actions arising from them. They note, too, the precedent the war set for the proliferation and acceptance of chemical weapons' use, as confronted most recently in operations *Desert Shield* and *Desert Storm*. Moreover, they point to the real lack of consequences resulting from most Iranian searches and seizures of gulf shipping, not to mention the Iraqi attacks on shipping to and from Iran, also a possible precedent. Finally, their discussion of the Cold War's and the superpowers' roles in the way most phases of the war evolved provides a context for how much of the war proceeded.

Readers will find *The Gulf War* worthy of careful reading and a quick, useful education in much of the recent history underlying both Iraq's invasion of Kuwait in August 1990 and our own successes in operations *Desert Shield* and *Desert Storm*.

LTC James L. Yarrison, USAR, Springfield, Virginia

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**ABANDONED BY LINCOLN: A Military Biography of General John Pope** by Wallace Schutz and Walter Trenerry. 233 pages. University of Illinois Press, Champaign, IL. 1990. \$32.50.

Although General John Pope was one of the Civil War's most controversial figures, until now there had been no published biography. Using the few primary sources available, authors Wallace Schutz and Walter Trenerry attempt to evaluate Pope's long and eventful military career. This is the first Civil War biography written by these two Civil War enthusiasts.

*Abandoned by Lincoln* presents two major themes. Schutz and Trenerry first tell how Pope climbed the ladder to military success through his family's political connections. The remainder of the book dwells on Pope's defeat at the second battle of Manassas in August 1862, a failure that haunted him for the remainder of his life.

Pope was born into a wealthy, well-connected Illinois family. In 1838, Pope used his family's political connections to gain an appointment to the US Military Academy, West Point, New York.

Upon graduation, he continued to use his family's connections to gain an active position as a topographical engineer. Not happy with his first assignment, Pope wrote to his state senator for assistance. He continued this tactic throughout his pre-Civil War career. Once the war started, Pope called on "family friend and shirttail relative Abraham Lincoln."

Schutz and Trenerry devote most of the book to Pope's failure in August 1862, his hatred of George B. McClellan and Lincoln's loss of confidence in his army. The second battle of Manassas is described in detail, with much of the blame for the Union's failure directed at Pope. His reward for undergoing defeat was command of the newly formed Department of the Northwest.

Overall, this book is very critical of Pope. Not until the last chapter do the authors show pity for him. The criticism is warranted in most instances but eventually becomes irritating. Facts and quotes are redundant. Twice, we learn that Robert E. Lee told "Stonewall" Jackson before the second battle of Manassas, "I want Pope suppressed." Condescending and often reading like a dime novel, *Abandoned by Lincoln* is only slightly valuable to scholars and historians. Hopefully, it might encourage someone to produce the definitive biography of Pope.  
**Mitchell Yockelson, National Archives, Washington, DC**

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**NARROW SEAS, SMALL NAVIES, AND FAT MERCHANTMEN: Naval Strategies for the 1990s** by Charles W. Koburger Jr. 157 pages. Praeger Publishers, New York. 1990. \$39.95.

It is rare and, thus, refreshing to review a book written by an author possessing both the requisite academic credentials and practical experience to make a credible statement. Charles W. Koburger Jr. is such a person. His book *Narrow Seas, Small Navies, and Fat Merchantmen* addresses an issue long debated in naval circles but recently brought to wider attention by Operation *Desert Storm*. It is the growing importance of narrow seas and lesser navies to overall maritime power.

Koburger's main thesis is that the maritime strategy of the United States has been preoccupied with "blue water" navies operating on open seas in relative isolation. Such naval warfare was intended to be waged against another major sea power and involved total blockade, the fleet in being, convoy and, at least theoretically, the decisive sea battle. But, according to Koburger, contemporary naval warfare is more likely to be waged in narrow, land-bound seas where "everything and everybody is involved." Furthermore, modern technology, with its

increased firepower, has given smaller ships and lesser navies a potential for destruction far out of proportion to their size. Thus, a major shift in sea power has occurred, away from the "super navies" of the United States and Soviet Union and toward the medium and small navies having significant regional or local power.

Koburger's principal conclusion is that the United States must recognize this change in the balance of sea power and develop the tactics and weapons to win wars on the narrow seas. He proposes several ways to do this, some controversial, including vertical/short takeoff and landing carriers, fast attack craft, enhanced mine-laying and sweeping capabilities, diesel-powered submarines, amphibious units and as much land-based air power as can be scraped up and supported. In making his argument, Koburger does not ignore the continuing threat from the blue water Soviet fleet. Rather, he proposes that the US Navy through the next decade consist of one-half blue water fleets, one-quarter low-intensity conflict weapons and one-quarter general purpose forces.

Powerful advocates of nuclear-powered submarines and large carriers remain dominant in the US Navy today. Consequently, Koburger's arguments will undoubtedly meet strong opposition. That does not, however, diminish their merits. Koburger does not claim omniscience. In his own words, "This essay cannot be the end, only a start, for dealing with these issues. It aims to open up thought, not close it." This book achieves that aim.

**RADM William H. Langenberg, USNR, Retired,  
 Alamo, California**

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**AFTER TIANANMEN SQUARE: Challenges for the Chinese-American Relationships** by Jurgen Domes, et al. Brassey's (US), Inc., McLean, VA. 1990. \$9.95.

*After Tiananmen Square* is mandatory reading for anyone interested in examining Chinese-American relations since the Tiananmen Square incident in 1989. That relationship will be key not only to both countries' future but to the world's future. On one side is the largest population of any country—one quarter of the world's people—and on the other, the world's most powerful country, maybe even the only real superpower after the breakup of the Soviet Empire in Europe.

In the first of six essays, Jurgen Domes discusses the political, economic and social trends in China in the 1990s and what these might mean for China's future relations with the rest of the world, pointing out that China faces major challenges and

that continuation of communist rule is by no means a foregone conclusion. He urges policies that will be consistent with the changes he projects for Chinese society.

Examining China's perspectives on the Third World, Chen Qimao discusses the Chinese position in various regions of the world vis-à-vis the US position. He points out where the positions converge and where they diverge, and he offers an optimistic prognosis for the future.

Harlan W. Jencks offers a thoughtful analysis of how Tiananmen has affected Chinese interests in the Western Pacific. He discusses Mongolia, Korea, Taiwan, Hong Kong and Southeast Asia in some detail, concluding that, while suppression of the democracy movement has put a damper on relations with the West, it is business as usual in most of the Western Pacific.

Focusing on China and Southeast Asia, Douglas Pike points out that Chinese and US interests there are generally compatible. He is cautious not to assume that this will continue as there are signs of developing issues that may lead to different approaches toward Southeast Asia.

In the final two essays, dealing specifically with Chinese-American relations, Ding Xinghao presents the Chinese side. He is hopeful that relations will improve, but places blame for any failure on the United States. He believes the US emphasis on civil liberties in China is unwarranted meddling in China's internal affairs and cannot help relations between the two. Robert L. Pfaltzgraff Jr. presents the US side. He examines how the Chinese view the situation, the American viewpoint, military and diplomatic relations and economic considerations. He believes that the Chinese resistance to a more liberal political and economic system stands in great contrast to what is happening in the Soviet Union and Eastern Europe. He points out, however, that China will remain important to the United States, and he urges a balance between our geopolitical interests and our values as they relate to internal affairs of China.

*After Tiananmen Square* is a thought-provoking volume. It presents a variety of viewpoints that will go far toward explaining why relations between the United States and China have developed in the current direction of some hope but a great deal of mistrust. I would have liked some essays focusing on the views from Hong Kong and Taiwan and how these might affect Chinese-American relations and a bibliography for further reading. Aside from these very minor criticisms, I can wholeheartedly recommend the book to anyone interested in

Chinese-American affairs. Given the importance of China, that should be virtually everyone.

**Daniel E. Spector, Command Historian,  
US Army Chemical School, Fort McClellan, Alabama**

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**THE GENERALS: The New American Heroes** by Bill Adler. 215 pages. Avon Books, New York. 1991. \$4.50 paperback.

"A year ago if you asked the average American to name two famous generals, their answer would probably be MacArthur and Patton. Today, that answer would most definitely be Schwarzkopf and Powell."

This quote from *The Generals'* press release sums up the motivation for writing and publishing this well-researched and easy-to-read work. What is most intriguing is the insight given into the family backgrounds of generals Colin L. Powell and H. Norman Schwarzkopf. It is clear that a great family made a great general in both instances. For "Powell: The Ghetto Warrior," it is the sense of family values and accomplishments instilled into him by his father, a shipping clerk in Manhattan's garment district, and his mother, a seamstress. For Schwarzkopf, it is the notoriety he received from his father, who, as New Jersey State police superintendent, led the Lindberg baby kidnapping and murder investigation in 1932; was the announcer of the famous "Gangbusters" radio show from 1936 until World War II started; and also organized Iran's national police force (working directly for General George C. Marshall).

Bill Adler chronicles their movement through the ranks, especially dwelling on their Vietnam War experiences, including excellent operations *Desert Shield* and *Desert Storm* documentation. In-between are such tidbits as Powell's 13 rules to live by and his advice to second lieutenants, as well as Schwarzkopf's skill as a magician (his particular expertise is sleight of hand tricks). Also included is the transcript from Schwarzkopf's now famous press conference of 27 February 1991.

No matter how well you know these two "new American heroes," you will learn more about them. For those of you who have served with and for them, you will be reminded of your own anecdotes.

**MAJ Milton L. Greenberg, USA,  
3d Support Command, Wiesbaden, Germany**



# November 1941

The Nazi war machine was beginning to feel the effects of its extended supply lines as German soldiers were still in summer uniforms as the first signs of another cruel Russian winter appeared.

On 3 November, Kursk fell to the Germans and when the snow and freezing temperatures hardened the ground on 7 November, the advance on Moscow was resumed. The German army was only 30 miles northwest of Moscow on 23 November. The Soviets launched a counterattack on 29 November to retake the city of Rostov-on-Don. Field Marshal Gerd von Runstedt realized that his forces were overextended and, despite orders from Hitler to the contrary, withdrew his troops to positions behind the Mius River. Hitler relieved him for his actions.

The British, still digging out from the *Battle of Britain*, were conducting night bombing raids on Germany throughout the month. They were successful in driving the Italian army out of East Africa with the capture of Gondar on 27 November. Although the fight to control North Africa would continue until mid-1943, Field Marshal Erwin Rommel's success in the desert was being slowed. Tobruk was still under British control, despite the numerous German assaults to capture the city. Rommel would eventually turn his attention elsewhere.

In the Far East, Japan's military forces continued to prepare for its ultimate conflict with the United States. On 3 November, Joseph C. Grew, US Ambassador to Japan, warned Washington that war might come very suddenly. On 20 November, Japanese attack orders were issued; military operations would not begin unless diplomatic negotiations failed. On 26 November, six aircraft carriers, two battleships and accompanying escort and supply ships set sail from the Kurile Islands under strict radio silence, destination

Hawaii. Japan rejected the US demand for Japan's withdraw from China on 27 November and made the decision to attack on 30 November.

The US involvement had increased throughout the year. On 6 November, the German ship *Odenwald* was captured off the US east coast by the cruiser USS *Omaha* and destroyer USS *Somers*. The German ship was disguised as a US merchant ship. The 1939 Neutrality Act was repealed on 13 November by a very narrow margin in both the House of Representatives and the Senate.

President Franklin D. Roosevelt knew that the majority of the American people did not want to go to war. However, the American public was about to receive a "sudden and deliberate" shock.

Captured war art picturing 37mm antitank crew in Russia. It was illustrated by a German soldier in November 1941. Note that the gunners are wearing summer uniforms.

